THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXVII. NEW YORK, SATURDAY, DECEMBER 8, 1900. NO. 23.

ORIGINAL ARTICLES.

AN IMPROVED TECHNIC IN AMPUTATION OF LARGE RECTAL PROLAPSE.

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IN a case of large rectal prolapse recently under my care at the Brooklyn Hospital the following method of carrying out the procedure of amputation of the prolapse proved to be comparatively easy of performance, and was followed by a most excellent result. The patient was a male in whom the mass protruded about five inches, and had been in existence for five years.

Analgesia was effected by means of spinal cocainization. The patient was placed in the combined lithotomy and Trendelenburg position. Being fully conscious he was able to bear down forcibly and extrude the prolapse fully, thus doing away with the necessity for traction upon the latter. A row of fenestrated or ring-headed forceps (common artery clamps will answer, but do not hold so well) was placed just in front of the junction of the mucous membrane with the skin of the anus in such a manner as to pinch up a circular fold of the mucous membrane of the outer cylinder for the entire circumference of the gut. About half an inch in front of this again an incision was made, likewise for the entire circumference of the outer cylinder of the gut, this incision extending through the mucous membrane only. Its proximal edge was dissected back for a half-inch. Two clamps were now placed, one upon either side, at the point of the prolapse, or the place where the outer cylinder of the gut returns to form the inner cylinder. With the mass thus steadied and the two cylinders identified, the index finger of the left hand was passed up the inner cylinder, and with this as a guide the circular incision already made in the circumference of the outer cylinder was deepened to the extent of a half-inch so as to include the remainder of the thickness of the latter and the inner cylinder through its entire thickness to the finger inside the latter. A suture of catgut was now placed so as to include the entire thickness of the two cylinders where the half-inch opening was made, with the exception of the turned-back mucous membrane cuff at the anal mucocutaneous margin grasped at first by the fenestrated forceps. This step of the operation was repeated until the entire circumference of the cylinders was transversed, save that each subsequent suture was first applied and the incision extended afterward. Care was taken that each extension of the incision was carried no farther than the area previously secured by the suture. Throughout this portion of the operation a stream of warm borosalicylic (Thiersch) solution was kept playing upon the parts. When the posterior portion of the circumference was reached the mesenteric attachment of the gut was encountered. This was treated precisely as the anterior portion, no difficulty being encountered in securing the vessels of the mesentery in the suture. As the last suture was applied the final cut was made in front of it, completing the amputation of the prolapse. The dissected-back mucous membrane at the mucocutaneous margin, which up to this time had been held in the grasp of the forceps first applied, was now replaced and sutured in position over the first row of sutures. Alcohol-boiled catgut was used as suture material throughout the entire operation. The patient suffered not the slightest pain during the operation, nor inconvenience either then or thereafter from the spinal cocainization, save slight nausea and mild headache. An opium suppository was placed high up in the bowel, and the parts replaced. A light tampon of zinc-oxide gauze was placed in position for forty-eight hours, after which it was removed and a castor-oil cathartic given, followed in three hours by a sweet-oil enema.

The advantages of this method consist (1) in the use of the combined lithotomy and Trendelenburg position, in order to prevent the descent of the small intestines during the operation, and thus providing against injury to these during the suturing; (2) in turning back a cuff at the mucocutaneous margin for the purpose of preserving the normal conditions at the rectal outlet, and at the same time permitting the removal of all the relaxed and overstretched mucous and submucous structures at this point. This cuff also provides a covering for the sutured edges of the stump of the prolapse and diminishes opportunities for subsequent infection; (3) in the step-by-step application of, first, a suture and then an extension of the incision through both cylinders to correspond with the sutured area, in this manner avoiding exposure of the peritoneal cavity to infection.

It is not claimed that this operation possesses all of these advantages exclusively. Several of them are features of one or another operation. I do not remember, however, to have seen them all combined in one procedure before.

A MODIFICATION OF THE MOSQUITO THEORY.[1]

BY CHARLES R. GRANDY, M.D.
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I DO not believe there is a single physician in this Society, who has not given some thought to the subject of the causation of malarial fever, with especial reference to the mosquito as an active agent in its dissemination. There is naturally a wide difference of opinion on this subject, and physicians have as usual divided themselves into two classes—those who do and those who do not accept the mosquito theory, but the line of division between the two factions is more sharply drawn in this discussion than is usually the case. On one side we find a number of younger men, who have used the microscope and who have had hospital and laboratory experience with the fever; while on the other side are the men who have lived their lives in places where malarial fever eternally dwells, and who have exerted their best efforts in combating it. The first class, the progressive, but at times too enthusiastic class, has adopted the mosquito theory. But the second class looks on it with doubt and distrust, and, while allowing that mosquitoes may at times cause the fever, it is not prepared to accept them as the sole method of spreading this disease, and indeed many physicians claim that the mosquito has nothing whatever to do with malaria.

In order to obtain the opinions of the men of this latter class, a circular letter was sent to many of the country physicians practising in Eastern Virginia and North Carolina—men with large experience with malarial fever in all its varieties, and the answers of some sixty of them have been tabulated and much valuable information has been acquired as the result. It is a noteworthy fact that among the sixty who answered only one person was found who believed that the mosquito theory accounted for all cases of malarial fever. Why is it, then, that these men all look with skepticism on the mosquito theory? Its warmest advocates say that they of the other side do not understand it, or that they are prejudiced. But, while this is certainly true in many instances, there are still a large number of men with wide experience and good judgment who claim that this theory does not explain all the existing conditions, and who, although they acknowledge that mosquitoes can directly transfer malaria from one person to another, believe that this theory cannot possibly account for all of the cases of malarial fever. We must not forget, however, when criticising the mosquito theory, that its originators do not claim it to be proven that malaria can only be transferred directly by the mosquito, although they evidently believe that this is the case.

[1] Read at the meeting of the Medical Society of Virginia, held at Charlottesville, October 23, 1900.

It will be well, in discussing the mosquito theory, first to state what it is in a few words, and then to criticise it in the light of existing conditions, and see where it applies and where it does not apply. Briefly it is this and it has been demonstrated to be possible by actual experiment. If a mosquito of the genus *Anopheles* takes malarial blood into its stomach, the malarial organisms, having freed themselves from the corpuscles, invade the stomach-walls, develop there, and in about ten days' time produce a number of young organisms, which pass through the blood-vessels into the parotid glands of the mosquito. They can then be injected into the blood of another person, who after some little time develops the same variety of malarial fever as the man from whom the original parasites were taken. It is only in mosquitoes of the genus *Anopheles* that the plasmodium can develop, the *Culex* being entirely incapable of transferring the disease.

In considering malarial fever, or any other disease for that matter, we must not forget the personal equation, although it often seems to be entirely lost sight of in a discussion of this sort, for Nature has always provided means by which the body can combat disease, even though it be often unsuccessful in its attempts. Thus in a healthy, vigorous man, who has not had a very large injection of malarial organisms, the leucocytes can often destroy all or most of the plasmodia, or can keep them down so as to prevent them from producing symptoms. Then it is necessary for some external cause to lower the bodily vigor, before the organisms can attain sufficient numbers to produce appreciable symptoms. It is also probable that a person can become partially immune to the poison through frequent attacks or through heredity. The organisms may thus often remain a long time dormant in the blood without causing any trouble. Every one who has examined blood recognizes this as a fact; and it is likewise proven by clinical experience, when the fever returns in a week or three weeks, or when it first appears after the person has removed from a malarious district.

The mosquito theory explains satisfactorily many of the well-known conditions which have long been recognized as aiding in the production of the fever. To begin with, malaria in these regions is prevalent when mosquitoes abound, *i. e.*, in August and September. It disappears for the most part when mosquitoes disappear—that is, at frost. Cases which remain or appear in winter or early spring are attributed to latent disease, which is made active by some external cause lessening the resisting power of the body. In eastern North Carolina cases of malarial fever are found in every month of the year, but they are much more common and much more severe in late summer and early autumn. Marked changes in temperature seem to have a striking influence in bringing out this latent

malaria, which is especially liable to occur in early spring. These cases, however, are almost always mild and are easily controlled by the use of quinine. Then *Anopheles* mosquitoes have been found in every markedly malarious district. There are places where there are many mosquitoes and no malaria, but these mosquitoes, when investigated, have almost without exception been found to be of the genus *Culex*, as, for instance, I found myself to be the case in northern Michigan. Finally, there has recently come the report from Italy, that five men have lived a month in a very malarious district, working hard by day, but being protected from the mosquitoes by night; and that these five men did not contract the disease, although they took no quinine, while others, doing the same work, but unprotected from the *Anopheles*, suffered from grave forms of malarial fever.

There are, however, objections to the mosquito theory as it now stands, and the great objection to my mind is that it claims that malaria can only be propagated by the direct transportation of the organisms from one man to another. I do not for an instant contend that this does not often occur, for I consider this much a proven fact, but I cannot bring myself to believe that the mosquito alone obtains and disseminates the plasmodia in this way. This, too, seems to be the point to which the men with the largest practical experience cannot subscribe, for they do not consider it possible for all the cases of malarial fever to be produced by this direct inoculation.

There is another objection to the mosquito theory to which I have not as yet heard a satisfactory answer. It is this: If the life cycle of the plasmodium is only to be found in man and the mosquito—that is, that the mosquito takes them from one person and directly inoculates another—and if there is no other host or medium which may at times shelter these organisms, the most malarious districts could be freed from this disease by being depopulated for a year, or at most two years. My reasoning in this matter is very simple. The mosquito only lives a short time, a month at longest, except when it hibernates. If all the infected mosquitoes died, without inoculating more people, as they certainly would do in two years' time, the most malarious district would become healthy. This, however, as far as I have been able to learn, is not in accordance with fact; there being some districts so malarious as to have made depopulation necessary, and yet it appears that if a man goes into such a region, he will contract the fever. Then, too, if an army camps in a swampy, sparsely-populated country, the soldiers contract the fever, and contract it in places where men rarely if ever come. The *Anopheles* do not seem to fly far from their breeding-places. Is it therefore likely, if malaria is only contracted through the mosquitoes, that they have all had the opportunity to digest malarious blood?

Manson believes (or believed) that the mosquitoes give up the parasites when they lay their eggs and die in the water, and that the parasites are then taken into the system by men who drink the water. This is in accordance with what he found to be true in the case of the *filaria sanguinis hominis*. The objection to this is that all the recent investigations have gone to show that malarial fever is *not* contracted from drinking water, either because the malarial organisms cannot live in it, or because they are destroyed by the human stomach secretion, just as they are destroyed in the stomach of the *Culex*. I have a very good example to the point, which I would like to add to those already published. The city of Norfolk obtains its water from ponds lying in a notoriously malarious district, yet the paved and sewered part of the city has long been almost free from malarial fever, although the unpaved and badly drained suburbs, some of which use the same water, have many cases of the fever. Then the City Almshouse, which lies near the water-works and gets its water from it, has regular yearly outbreaks of malarial fever. Last winter a very complete sand-filter plant was instituted, yet there has been no appreciable change in the malaria in any one of these places, perhaps there have been a few more cases this summer than is usual in the city. How, then, can we account for the fever? Around the ponds are found large numbers of *Anopheles* which breed in the drinking water (which, by the way, contains many algæ), and in the suburbs *Anopheles* have also been found. Where this mosquito is found, there we find the malaria; but the drinking water, filtered or unfiltered, has no appreciable effect, as the people in all these localities use the same, yet one place is almost free from malaria, while another has regular outbreaks in the autumn.

Then it has been thought that the plasmodia might pass through the eggs into the larvæ and remain till the mosquito was grown, and that they then could be inoculated by it. This seems to be true in the case of the organism that produces Texas fever and which is inoculated by a tick, but actual experiment has disproven it in the case of the human malarial organism.

There is another modification of the mosquito theory which overcomes these objections, and, although it is still mere hypothesis, it appeals to me strongly. To begin with, we will acknowledge that in a certain number of cases malarial fever is directly transferred from man to man by the *Anopheles;* so much is proven beyond question. But I believe this to be the fact in only a very limited number of cases. How then can we account for the great majority of cases of fever? I still believe in the potency of the *Anopheles*, but believe that they can, and do, obtain the organisms from other sources than direct from the human blood. We know that this genus injects the young malarial organisms from its parotid gland into the blood of the man

upon whom it is feeding. Is it not likely that it, when feeding on other things than human blood, which seems to be more of a delicacy than a staple article of diet with the mosquito tribe, should also inject the parasites into whatever it is eating? Other uninfected *Anopheles* may take in the parasites directly from this food or water; or the plasmodia, in the form in which we find them in the parotid glands, may be able to live in water or damp soil as other sporazoa do, and later on they may be taken up by other *Anopheles* and be inoculated by them into man. It is also possible that the plasmodia may pass into the water from the bodies of the *Anopheles*, which have died in the water after depositing their eggs, and may be taken up in feeding by other mosquitoes.

All the arguments in favor of the mosquito theory apply equally well to this modification, but the modification explains some points to which the original does not thoroughly apply. Let us, then, briefly criticise this modification of the theory and see if it will hold good under all conditions. Naturally many of these will apply to the theory as it now stands, as well as to its modification. In the first place wherever malarial fever regularly appears, there we find the *Anopheles*. There may be places with this mosquito and without malaria, but if the disease is brought there by man, the insect can spread it.

This has been observed in the case of an East Indian island, whither the fever was brought from India, and where let us remark it still remains. The *Anopheles* breed only in pools and not in tubs; they are the country mosquito in contradistinction to the *Culex*, which is found in both towns and country. This explains why there is so much more malaria in the country districts. They feed at night, which fact explains the influence of night air in producing malarial fever. They are most numerous at the time of the heavy dews (in August and September), the effect of which is thus accounted for. Their larvæ feed on algæ, hence the theory that stagnant water causes malaria. It has long been noted that the digging up of old swampy soil causes an increase in the number of cases of malarial fever. This can be accounted for either by furnishing fresh breeding-places for the mosquito, or possibly by the exposure of dormant parasites, which are then taken up by the *Anopheles*. Malaria is severer in warm, rainy seasons, because this both furnishes the insect with more and better breeding-places, and likewise allows it to obtain more of the extracorporeal organisms. On the other hand, the drainage of the soil deprives the *Anopheles* of breeding-places and kills the extracorporeal organisms by depriving them of moisture. The eucalyptus tree stops the malaria by driving off the *Anopheles*. It would be interesting to know if the fever would return as soon as the trees were cut down, and more especially if young *Anopheles*, raised in the laboratory and free from infection, were turned loose there. As I remarked before this modification explains how uninhabited districts still may remain malarious, and this the unmodified theory does not do. It explains how the fever is disseminated without direct reinoculation; for this would imply either very active work on the part of the infected mosquitoes which have lived through the winter, and which must be comparatively few in number, or a very large number of cases of dormant malaria, from which the young mosquitoes could obtain the parasites. Whereas the writer realizes the large number of these cases, he does not believe them sufficient to alone restock the *Anopheles* with plasmodia. It likewise must not be forgotten that most of these dormant cases seem to develop in early spring, when there are no *Anopheles* to be infected, and that they readily respond to treatment, which would destroy the parasites before the *Anopheles* would have a chance to obtain them.

The original experiments by Bignami simply showed that *Anopheles* taken from a malarious district could produce the fever in a healthy man by biting him, although his later experiments showed that they could directly transfer the parasites from one person to another. Consequently many of his experiments speak as strongly for the modification as they do for the theory, for the mosquitoes might have obtained their organisms from sources other than human blood.

There are two objections to this modification of the mosquito theory. The first is that the malarial organisms have never been cultured artificially. To this we can reply that no other parasitic protozoon has been thus cultured, and that we must not demand more in one case than in the others. The second is that they have never been found free in nature. We must consider in regard to this point how very minute are the tiny thread-like organisms found in the mosquitoes' parotid glands and how easily they could escape observation when looked for in water, let us say, and that up to the present year they would not have been considered in connection with the *plasmodium malariae*, even if found, and might readily have passed for bacteria. Experiments made with the organism as found in the human blood will have to be cast aside as proving nothing, and every experiment in regard to the extracorporeal life of the plasmodium will have to be tried with it in this thread-like stage, for it is from this stage that it passes into the external world, if it does so at all.

A positive proof of what I have just read cannot as yet be shown, and further investigation may overthrow it. Nevertheless I claim that this modification of the mosquito theory comes nearer fulfilling all conditions and answering all objections than any theory that has come under my notice. Like all hypotheses, for it is nothing else, it needs further investigation, which will either strengthen or overthrow it. Still it is at least worthy of consideration, and as such I pre-

sent it to you, hoping that it will be criticised fully and severely, for if it will not stand criticism, it had much better never go beyond the doors of this hall.

HEAT-STROKE AS A POST-OPERATIVE COMPLICATION.[1]

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THE atmospheric conditions that occasionally prevail during the summer season in New York determine not infrequently conditions known as sunstroke and heat-stroke. The occurrence of these phenomena seems to be the result of a combination of high temperature, a high percentage of humidity and absence of breeze. The humidity is perhaps the most essential feature and certainly determines the greatest amount of depression and suffering even when the thermometer fails to register extreme degrees of heat. When the combined elements are most marked, we have in this city a climate which is badly borne even by those accustomed to live in countries where the range of the thermometer during the heated term is considerably higher than here.

All accustomed to treat the very sick realize perfectly the severe depression produced in patients by hot weather. For the past seven summers the writer has had abundant opportunities to observe these effects of heat in an active hospital practice. He believes that one ought to realize that this depressing humid weather furnishes a real complication in many cases and in some constitutes a condition of major importance directly dangerous to life.

In ascribing to the effects of heat a decided rise of temperature and definite constitutional symptoms, we must, particularly when dealing with post-operative conditions, be able to eliminate entirely the many causes that may determine a post-operative fever. Such a standard makes it very hard to reduce a description of a given case to exact language, and get to prove one's views to others, no matter how sincere one's personal impression may be. Shock, sepsis, suppuration, hemorrhage, neurotic conditions, constipation, malaria, constitutional dyscrasiæ, evident or latent, iodoform-poisoning, genito-urinary infections and reflexes, renal and many other conditions must be eliminated before one can fall back upon heat as the sole determining cause of this condition of fever and constitutional manifestations which, if sufficiently marked, the writer would describe as post-operative heat-stroke.

The writer has in mind a number of cases which he believes might come under the head of heat-stroke, but, mindful of the desirability of restricting the term to sharply-defined cases, he will confine himself to the report of two in which conflicting evidence seems to be absent.

[1] Read before the Surgical Section of the New York Academy of Medicine, November 12, 1900.

Case I.—Walter O. C., aged eight years, admitted to St. Luke's Hospital June 1, 1900, with a history of appendicular trouble of short duration. The previous history excellent. Physical examination negative except for local condition. There is a moderate general abdominal rigidity, most marked on the right side. There is a point of extreme tenderness just above and internal to McBurney's point. No mass can be felt. Temperature 102° F. Pulse 120. Immediate operation under gas and ether anesthesia. An incision along the border of the right rectus revealed a long and in part gangrenous appendix; no abscess. Removal of appendix; gauze packing; closure of the greater part of wound. The immediate recovery was good, but by the afternoon of the next day the boy presented a chain of symptoms which gave the impression that he would die in a few hours. The temperature was 104° F., pulse 148 and of wretched quality. The countenance was pinched and of an appalling ashy, gray-blue color, the skin was hot and dry. He was irrational and could not be kept still in bed. Changing of the dressings showed a perfect condition of the wound. During the course of the afternoon the condition was intensified, and the patient became wildly delirious. The house surgeon, Dr. W. P. Herrick, was fortunately inspired with an effort at a reduction of temperature by an alcohol sponge-bath and the application of ice bags to various parts of the body. The working of these measures was almost miraculous. The delirium ceased instantly, the child passing into a natural refreshing sleep of some hours, awaking in a perfectly normal condition, and the temperature dropped from 104° to 100.6° F.; the pulse fell to 98 and was of excellent quality. June 2, 1900, was an especially depressing day, although the heat did not reach some of the extremes attained later during this very hot summer, and the close and distressing quality of the air had been specially noted in the particular ward in which the patient lay. The child's further convalescence was perfectly normal.

In the case just described there was absolutely nothing but the heat to account for the symptoms; the result of treatment was promptly manifested, and the uneventful after-history showed that it was the only complication present.

The next case presents quite different elements, as there was a very grave condition giving rise *per se* to a high temperature, but its extreme degree leads the writer to believe that the heat element was an additional and definite factor.

Case II.—Mr. Charles Van E., admitted to St. Luke's Hospital August 10, 1900, with a history of appendicular trouble of a week's duration. In his previous history it is noted that he never had had malaria. Examination showed an enormously obese man, weighing over 300 pounds, somewhat cyanotic. Heart-action feeble and intermittent. Abdominal palpation negative. Temperature, 104.4° F., pulse 108. Immediate

operation. A seven-inch incision was necessary to reach the peritoneum. A huge abscess cavity was opened and the gangrenous appendix was removed; through its lumen magnesium sulphate ℥ij, in concentrated solution, was introduced into the bowel and the stump inverted into the cecum. Liberal packing of cavity. Partial suture of wound.

An hour and a half after his return to the ward the temperature (verified by several thermometers) was 108.2° F. When this temperature was reported the writer assumed that this excessive temperature must be due to heat-prostration and instituted treatment on this line, *viz.*, rubbing with ice, ice-coil to the abdomen and head, etc., with the result that the temperature was brought down in three hours to 102.8° F., a drop of five and four-tenths degrees. For the next twenty-four hours it ranged from 102.4° to 104° F., dropping below 101° F. the second day after operation. Meanwhile the antithermal treatment had been vigorously continued. He made a poor convalescence, as his heart constantly flagged. He died rather suddenly two weeks after operation. Autopsy showed the cardiac condition alone to be responsible for the fatal result.

The writer believes that the immediate hyperpyrexia in this case may be attributed to the following facts: The patient traveled by railroad in the greatest heat of the day to reach the hospital. He was etherized in a small, close room without any window opening externally. The main operating-room being in use, the operation was performed in an auxiliary room with only one ordinary window in it, and that facing north while the prevailing breeze that day was from the south. At the time of the operation the Weather Bureau thermometer, high above the street level, registered 94° F. and the humidity was so distressing that all participants in the operation were dripping with perspiration. The day is remembered in the hospital as probably the most trying of the whole summer.

After opening this huge abscess (about two quarts of pus were evacuated) the patient should have had a drop in temperature rather than a rise. That we were able purely by the application of cold to effect a drop of five and four-tenths degrees in a short time seems to the writer, taking in consideration the etiological factors just stated, fairly good evidence of the correctness of the views here maintained.

On the Fourth of July, 1899, the writer operated on a young man with a small, well-localized appendicular abscess; the appendix was easily removed, and the cavity well drained with gauze. Three days later, after having done quite well, the patient became delirious and finally maniacal. The skin was hot and dry, the pulse-rate reached 176 and the temperature 105° F. Application of cold quickly brought down the temperature over four degrees, and the pulse to 122. The patient died, however, the next day apparently of exhaustion. There was no post-mortem, but the condition found at operation and the abdominal symptoms, or rather lack of them, did not give a sufficient explanation of the cause of death. As the weather was particularly sultry, this may have been a case of heat-prostration, but it is not offered on the same footing as the cases just related.

If the writer is correct in his belief that there is an occasional reaction to the atmospheric conditions in operative cases, it is certainly important to recognize it in order that it may be properly and promptly treated (there is no question in my mind that in the cases cited the treatment saved the lives of the patients, as they were both rapidly sinking); (2) for the surgeon's peace of mind, and (3) to avoid misdirected efforts at the relief of conditions which may be mistaken for these effects of heat.

With regard to the treatment, little need to be said except to recommend free circulation of air (electric fan), free diuresis, and the application of cold in various forms, the extent to which it is resorted varying with the urgency of the symptoms and the exigencies of the surgical condition. Probably none of these heat manifestations will ever be of a very severe type, and comparatively mild measures should succeed. The prognosis should be good, provided treatment is promptly instituted.

It is not the writer's desire to convey the impression that because of occasional manifestations, as just described, the summer season is relatively less favorable for operative work. On the whole, patients perhaps do better, as they are more free from pneumonic disturbances, the increased action of the skin supplements the efforts of damaged kidneys, and the prevailing temperature assists in maintaining a good circulation. It is only necessary to bear in mind that occasionally the beneficial effects of heat may become misdirected, if complicated with unfavorable accompanying atmospheric conditions.

CHLORALAMID.

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NORMAL sleep occurs during the harmonious working of bodily organs. Sleeping and waking states are rhythmic life phenomena and part of the evidence that action and reaction are always equal and opposite. Further, sleep is an assimilatory process by which energy is stored for expenditure during waking hours. Therefore anything that disturbs the harmonious working of bodily organs interferes with sleep. The foregoing may sound trite or like a mere statement of fact, but when we attempt comprehensive definitions and secure axioms we too often neglect them in considering related matters.

Treatment of sleeplessness must vary therefore as widely as the nature of the disturbance of

whatever particular bodily organ is involved. If the head is too full of blood to permit sleep, resort may be had to a hot foot-bath, a laxative or other derivative means; if sleep is absent because the heart is weak, its stimulation is indicated; if sleeplessness ensues through poisonous materials retained in the circulation, proper elimination is imperative. To any one with a rudimentary knowledge of physiology such things should be apparent enough, but in spite of the dissemination of that amount of information single remedies are still expected for complex ailments such as insomnia.

Germain See's division of causes of sleeplessness are into dolorous, digestive, cardiac, respiratory, cerebrospinal, neurotic, psychic, insomnia of fatigue, genito-urinary and toxic. Reflection exposes the unsatisfactory nature of such a division, for conditions are named that could be included one in the other, and the organs mentioned are too few, while in such names as neurotic, psychic and cerebrospinal we may have identical states. Bradbury[1] classifies the causes of insomnia into irritative, toxic, psychical, change of mode of life. The first division may be made to include all the other divisions, the second may cause the third and the fourth suffice to set up any of the others.

Irritation might be assigned as nearer the root of insomnia than probably could be summed up in any other word, but what causes the irritation should be sought for and removed if possible. As it is not always practicable to find the source of this irritation we are forced to regard, in many cases, the fact that the nervous system is the avenue of irritability and attempt relief through neurotic medicines.

The claim that sleep depends upon a retraction of neurons, a drawing away of nerve-processes from one another, is not only incapable of proof but as fantastic as that skeletons may walk. In 1882[2] I anticipated the neuron theory to the extent of assigning axis cylinder producing functions to the nerve-cells, but expressly derided autonomy of nerve-tissue. The narrow specialist in neurology seems to regard the nervous system as capable of existence apart from the body.

Something nearer ultimate causes of sleep and its disturbances can be secured by considering the blood-supply states upon which they depend. I advanced a theory of sleep[3] based upon vascular changes, claiming that the whole range of sleep phenomena is accounted for in states of the blood-vessels and their contents, quantity and quality of blood and caliber differences of arterioles. What would suffice to cause sleeplessness in one person would not do so in another, and the same individual will be affected differently at times by similar causes. Mental suggestion may suffice to produce sleep in a few instances, but fails in serious cases. Humboldt is said to have required but two hours' sleep, Pitt three, Hunter five in the twenty-four. But other noted persons were not thus abnormal.

Among promotors of normal sleep may be enumerated fatigue, repletion, removal of irritation, such as disturbing temperature (remembering also that toleration of what previously irritated may be acquired, such as adjustment to noises), silence, darkness, fresh air during the previous waking hours, massage, restoration of proper circulation as by a hot bath or warmth to feet, a narrow strip of mustard plaster to the spine, a cup of hot beef-tea or of hot water, local friction between the shoulders or over the abdomen, an enema of hot water, not for its cleansing action but to impart interior heat, although in states of faulty elimination catharsis, laxatives, diuretics or diaphoretics may cause sleep. Tonics are needed or perhaps a heart stimulant in states of low arterial tension. Such are indicated by wakefulness in recumbent positions and drowsiness while erect or sitting.

While fatigue may cause sleep, excessive fatigue may destroy it and become an irritative cause of wakefulness. Irritative insomnia may be due to excessive fatigue, abnormal temperature, respiratory difficulty from organic or chemical causes, such as insufficiency of oxygen, excess of carbonic acid or other toxic material, other organs such as stomach, liver, intestines, ovaries, etc., may be deranged, as when hunger or pain is felt, or there may be sensory irritation as by noises, light, etc., cerebral congestion, circulatory derangement, as in inflammation, tumors, and in the delirium of fever or apprehension of heart-disease. Sleep may be banished by improper use of coffee or tea. Excitement such as joy or grief may destroy sleep. Pain anywhere is a frequent and potent cause of sleeplessness.

Abuse of hypnotics is frequent, as in the case of an old gentleman whose customary whisky was cut off by his physician and who lost the use of his legs and "had not slept for a week," although large doses of chloral and bromides had been given. The overdosing had caused both the "paralysis" and the sleeplessness and irritated the stomach so that food could not be taken. My advice was to stop the depressing drugs and take an egg-nog, which caused refreshing sleep in a few minutes and cured the "paralysis."

In many cases time is required to remove a discovered cause of sleeplessness and meanwhile sleep is imperative for the sufferer. In the greatest number of such and other instances there is no medicine that can equal chloralamid in efficacy. In nocturnal epilepsy and particularly where there is apprehension of somnambulism I found that chloralamid suppressed attacks. Dana[4] found it to be a useful adjuvant in epilepsy.

Where repeated doses of a sleeping-potion are to be administered I have found during the past ten years that chloralamid is without a rival, as it does not depress the heart or irritate the stomach as do bromides and chloral hydrate, nor paralyze the intestines and stupefy the next day as do sulfonal and trional. In ordinary melan-

cholia it acts as a food and I therefore classed it among "nutrient hypnotics" or those that supply some material to the system that sustains instead of depresses. In this sense milk, beef-tea or a stimulant, is a nutrient which may upon suitable occasions produce sleep. In agitated melancholia with refusal of food I gave the solution mixed with the liquids for enforced feeding and have noted in most cases a disposition to take food thereafter. In toxemic neuroses and psychoses, in which other hypnotics or analgesics added to the trouble by giving more poison to the system and interfering with elimination, chloralamid has appeared to antagonize the polluted blood-stream, strengthen the heart and bowels, and clear up the intelligence. During the formation of alveolar abscesses both the pain and sleeplessness have been greatly abated by chloralamid, and inveterate neuralgias have been made far more tolerable by occasional doses when sleep was disturbed. The distressing wakefulness of traumatic neurasthenias, especially when the spinal column had been injured or was involved in inflammatory states, has been relieved, and in locomotor ataxia I prefer chloralamid, in conjunction with derivative means, to any other medicament when there is nocturnal pain. In this disorder opium should never be given and many of the other usually suggested hypnotics will be found to be worse than inoperative. In the occasional restlessness of chronic insanities, in the sufferings of meningitis, and when senile heart conditions or, in fact, cardiac troubles in general suggest extreme care in the selection of a hypnotic, chloralamid has no rival. It acted rapidly and satisfactorily in breaking up the cocaine habit, and a drunkard who used it stated that a few doses deprived him of his appetite for liquor (how long I did not learn), nor was there any disposition to take further doses afterward. Too many alleged "cures" of addictions merely substitute one pernicious habit for another. Charteris[6] and Ledingham[7] favor its use with bromides to prevent seasickness. Keay,[8] Strahan[9] and Umfenbach[10] advise its use in mental diseases. Manchot[11] suggests it in diabetes. A large number of competent clinicians have endorsed chloralamid favorably.[12] Hagan and Hüfler observed good effects upon sleep even when sleeplessness was due to severe pains, being in some cases even superior to morphine, and Collins mentions its usefulness where any pain prevents sleep. Where there is excessive irritable activity of the brain it has given relief. In a case of sleeplessness from arterial sclerosis chloralamid relieved when morphine failed to do so. E. Friend found it better than morphine in the distress of gonorrheal rheumatism. Pain and consequent sleeplessness in thoracic aneurism were relieved when morphine failed, and Reichmann used chloralamid in gall-stone pain in preference to morphine. In various neuralgias and carcinomatous suffering, in the pain of floating kidney, herpes zoster, alcoholic neuritis, dysmenorrhea, etc., chloralamid was proven to be superior to morphine. In Bright's disease, where sleep had been seriously disturbed by almost constant headache which various remedies failed to remove, chloralamid was beneficially used and in the sleeplessness of phthisis it was noticed that the exhausting night-sweats were lessened. It relieved the severe headache of contracted kidney. Some writers mention its soothing influence upon mental disorders.

Manchot in the Hamburg Lunatic Asylum used more than a pound of chloralamid monthly for forty months in doses of 112 to 180 grains daily, mainly in delirium tremens and chronic alcoholic cases. His mortality during this time fell from 6 in 160 to 5 in 519 uncomplicated delirium tremens cases.

A few instances of undesirable after-effects have been stated as occurring after using chloralamid, *viz.*, headache, stupor, giddiness, exhilaration, intoxication, nausea, incoordination, slight pain, dryness of throat, stomachache, epistaxis, measles like exanthem, and sugar in the urine as an idiosyncrasy, but not constant in all cases, and in only one-third of the cases where large doses were used. These accompaniments are in so few instances as to suggest coincidence rather than cause. I observed exhilaration and slight incoordination, however, in a cocaine case, and to a less extent in alcoholism the day after chloralamid had been used, but these were of no consequence compared with the benefits secured.

Alt found it of little use in the excitement of mania or paretic dementia; I recorded, in the 1894 article referred to above, that the drug appeared to answer best in the depressed psychoses and did not seem to be strong enough for mania. This I attributed to its stimulant influence, needed in melancholia to induce sleep, but superfluous in mania, although sustentation is imperative in both conditions.

It is to be noted that inferior whisky is not a rapid solvent and it is recommended to dissolve the crystals in a little pure alcohol and then add water or whatever is preferred. The elixir is therefore a prompt means of exhibition where time is a consideration.

Pharmacists keep a ready made elixir in stock with the following composition containing 30 grains to the fluid-ounce: Chloralamid, 2 grams; alcohol, 5.0 c.c.; tincture arom., 5.4 c.c.; glycerin, 15.0 c.c.; water q. s. ad. 30.0 c.c.

Chloralum-formamidatum, the chemical name, which pharmacy requirements shorten into chloralamid, is constructed by the interaction of chloral (not chloral hydrate) and formamide. It dates from the experiments of Von Mering, the Strasburg clinician in 1889, and has grown into universal esteem. The Pharmacopœias of all other nations will assuredly follow the German in recognizing its value. The formamide is a stimulant which counteracts the blood-pressure fall of chloral and, according to Reichmann's sphygmographic tests, chloralamid influences

blood-pressure but little. Nor is there unfavorable action upon the temperature, respiration, circulation or digestion.

It is decomposed by alkalies and heat and in water at 140° F. (60° C.), hence it should never be given in hot water as has been improperly done at times. Twenty parts of water at ordinary temperature are said to dissolve the crystals, but I have found that 30 to 40 parts of water save much time in making the solution; weak acids facilitate its dissolving and one and a half parts of alcohol rapidly unite with it; therefore, about three parts of brandy or whisky, if standard, will also do so. Taken in powder the effect is delayed, though some practitioners persist in this form of dosing. With stomach acidity there would be more rapid assimilation. Claret is used occasionally, but in all instances where vinous or watery vehicles are solvents and time is to be saved a concentrated alcoholic or elixir dose should be poured into the vehicle.

Its slightly bitter taste is scarcely worth consideration, but to disguise it an approved formula is:

℞ Chloralamid ..... ʒ ij
Whisky ..... ʒ j
Syrup raspberry ..... ʒ j
M. Sig. Half-teaspoonful dose.

Lettow's prescription for an enema is:

℞ Chloralamid ..... gr. 45
Muriatic acid ..... gtt. 2
Alcohol ..... ♏ 15
Water ..... ʒ iij

A solution made with 12 grains in two and a half drams of water may be used hypodermatically when such disorders as rectal carcinoma deprive a patient of sleep.

The usual dose of chloralamid is 15 to 60 grains one half-hour before bedtime. It takes effect usually in one hour. One dose has sufficed to secure sleep on a subsequent night as well as upon the night when used. The German Pharmacopœia mentions 60 grains as the largest single dose and 120 grains as the largest daily dose.

There is no liability to addiction, no ill consequences, no cumulative effect, and as it does not influence the viscera and is not an irritant to any mucous membrane it should more rapidly supersede chloral hydrate, as it is gradually and surely doing.

The relative strength is assumed to be 45 grains of chloralamid equaling 30 grains of chloral hydrate, but in practice the doses are about the same with the advantage that while a minimum dose of chloral hydrate has killed, no amount of chloralamid has been attended with fatal result so far as reported. The blandness and safety of chloralamid without after-effects should certainly recommend it against the danger and harshness of chloral hydrate which destroys digestion by setting up gastritis, and its constant administration has cut off chances of recovery from insanity. I believe that insane asylums should in the name of humanity use chloralamid in preference to chloral hydrate. In organic heart-disease chloralamid is safer and there is less danger and dread in giving it where there is any cardiac complication. Cervello claims that chloral injuriously affected the heart and that it created a difference from normal blood-pressure of from 50 to 80 mm., while chloralamid differed within the limits occurring during ordinary sleep 17 mm., so chloralamid, he infers, influences the heart but slightly.

Phenacetin, phenocoll, lactophenin and antipyrin are well known minor pain alleviators which incidentally and indirectly may cause sleep, but against each of these have been charges of their causing heart interference and cyanosis. Acetanilid of this series was regarded as the worst in this respect and antifebrin was presumed to be only a proprietary form of the former. Certainly pseudoscientific "headache-powders," extensively advertised, have here and there occasioned death; this has been laid to commercial impurities in the acetanilid. Reputable physicians are afraid to make too common use of such things, but the nostrum advertiser has neither fears nor scruples, an instance of ignorance and cupidity rushing in where knowledge fears to tread.

Conium maculatum was a favorite motor paralyzant in maniacal states, but is too dangerous for extensive use. Ergot is probably not used enough as an arteriole constringent where congestions produce pain or sleeplessness. Bromides are being dispensed more and to a reckless extent when their protracted use causes debility and poverty of blood. Cocaine is being abused in quack preparations, such as wines and catarrh snuffs. Both amylene hydrate and paraldehyde have suffocating odors and the latter has increased the number of epileptic fits. Hypnone, somnal and urethane have been practically discarded through unfavorable reports. The feebleness and unreliability of lactucarium shelves it as a curiosity more than a medicine.

Ernest Schultze[13] discusses the new mixture of chloral hydrate and amylene hydrate called Dormiol. It has a pungent menthol odor and burning taste. "Owing to its peculiar behavior in water" a ten-per-cent. solution in water is recommended for use. He says it failed in mania and paretic dementia and in the excitement of epilepsy. As the disagreeable properties of its components are not only retained by this new mixture and new ones added, while efficiency is lessened, its justification may well be questioned.

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STATE SANATORIA FOR CONSUMPTIVES IN MICHIGAN.[1]

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QUOTING from a paper on the "Home Treatment of Consumption," read before the Medical and Chirurgical Faculty of Maryland last fall, Dr. Osler says: "For more than two centuries the clearer headed members of the profession have known that an open-air life sometimes cures a case of phthisis"; and, concluding, he says: "A rigid régime, a life of rules and regulations, a dominant will on the part of the doctor, willing obedience on the part of the patient and friends —these, with the conditions we have discussed, are necessary in the successful treatment of pulmonary tuberculosis." The "conditions discussed" are those toward which the efforts of every intelligent and experienced practitioner of medicine are directed in his management of the consumptive patient, whether in private or hospital practice.

It is unnecessary at this time to enter into any detailed description along the lines of the "open-air" treatment, the rigid discipline necessary in carrying it out successfully, or the supplementary medical treatment best to be employed. Suffice it to say that at the present time, all physicians of experience in the care of consumptives agree that the cure of the disease is the work of Nature; and that the chief function of the physician is that of a teacher, while his peculiar medical skill is devoted to the task of promoting nutrition and placing the economy in the most favorable condition to receive the benefits of the rational cure. Moreover, all are agreed that to be most successful treatment must be begun in the incipient stages of the disease, the so-called "pretubercular" stage which, as Dr. Trudeau and others have long maintained, is nothing in the world but the first stages of the tuberculous process before physical signs have appeared. Furthermore, that to effect a cure which will give the greatest security against relapse in this treacherous disease, treatment must be perseveringly continued, with untiring vigor, over a considerable period of time.

Upon these three points, then, there is such a unanimity of opinion that argument or citation of statistics are alike superfluous: (1) The "open-air" treatment systematically carried out, supplemented by such general medical treatment as the individual case may require is, up to the present, our most effective weapon against tuberculosis; (2) early diagnosis is essential to the best results, and (3) treatment to meet the highest requirements must extend over a considerable period of time.

When a patient is discovered in the early stages of tuberculosis, the question at once arises how best to fulfil these three conditions. When such a patient is from the wealthier class, or even from the less wealthy but well-to-do portion of the community, the chief difficulties which otherwise arise to embarrass the physician are at once overcome. A trained and specially instructed nurse, the Adirondacks, North or South Carolina, Colorado or California, settle the question; it is only the matter of details that demands further attention. But when the same disease appears in the family of the laboring-man, a class from which 90 to 95 per cent. of our consumptives come, most often attacking the bread-winner, the problem which confronts the physician is by no means as simple. Change from the environment in which the disease has developed is the first essential, and this, in most cases, means the cutting off of self-support. This compels the patient to assume, for an indefinite period, the rôle of a dependant at a time when it is not easy to convince either him or his friends that the trouble is of sufficient gravity to demand such radical measures. A trained attendant and travel or residence in a suitable climate under such conditions as best favor a cure are alike out of the question. The patient is seen for a few minutes perhaps once or twice a week and instructed in a vague sort of way in the care of the sputum, the desirability of a life out-of-doors, and such further hygienic and sanitary precautions as occur to the physician's mind at the time. Tonics are prescribed and a diet indicated, but all without any assurance that the importance of the situation is appreciated or that the directions will be followed as intended; in short, without that system and discipline which experience has for a century been teaching us are of such inestimable advantage in the treatment of consumption.

Institutional care for this appallingly large class of unfortunates is to-day recognized as the closest approach to the ideal treatment which modern social conditions make possible. Sanatoria for the treatment of the early stages of phthisis are no longer experiments. Wherever they have been established, whether by private endowment or State appropriation, they have more than met the most sanguine expectations of their supporters, yet the surprising fact remains that the vast majority of people, notwithstanding that one out of every forty or fifty of them is a consumptive, is supinely indifferent to the whole matter. However, perhaps this indifference is more apparent than real. I am convinced that once the medical profession expresses that unanimity of opinion which must follow a fair consideration of what has already been accomplished in this direction, there will be no further difficulty in securing the attention and interest of both legislature and people.

The pioneer efforts of Brehmer in Europe and Trudeau in this country have demonstrated beyond cavil the immense practical value of the sanatorium idea, not only as a means of curing the disease, but through its educational influence upon the community, both directly and through

[1] Part of the general discussion on the subject of Tuberculosis at the thirty-fifth annual meeting of the Michigan State Medical Society, at Mackinac Island, 1900.

the missionary work of cured and improved patients on their return to the work-a-day world, as an active preventative against the spread of tuberculosis.

There is already throughout the country a considerable agitation on the subject of State sanatoria. New York has recently appropriated the sum of fifty thousand dollars for the establishment of a sanatorium for incipient consumptives in the Adirondacks. Of course, this sum is absurdly small and can in itself effect very little, but it is a beginning in the right direction, and will no doubt be followed by more substantial appropriations in the near future.

In 1895 Massachusetts appropriated the sum of one hundred and fifty thousand dollars for the same object, and the State Hospital in Rutland is the result, a splendid institution of which the State may be justly proud. I am informed by Dr. Marclay, the superintendent in charge, that the plant as it now stands, with a full capacity of one hundred and seventy-five patients, cost the State about one hundred and seventy-five thousand dollars. As far as can be judged at present its first year's work ranks well up toward that which is yearly accomplished by Dr. Trudeau's Adirondack Cottage Sanitarium.

When once the current of public opinion sets in a certain direction it gathers force with every month and year, and while this question of State care of consumptives has been a long time gaining the force of public confidence, recent developments along the lines of the etiology and pathology of tuberculosis have produced their inevitable influence, and the medical sentiment to-day is so strong in favor of that which I advocate in this discussion that it is only a question of time, I am convinced when State sanatoria will be regarded as much an essential to the public welfare as is the school-house.

Without entering further into the general consideration of a subject so inexhaustible, let me briefly capitulate the points of chief importance to the condition of things respecting tuberculosis which confronts the Michigan practitioner to-day. As nearly as I can estimate from the statistics furnished by the State Board of Health and such information as I have obtained through the courtesy of its Secretary, Dr. Baker, there are in Michigan in the neighborhood of 1500 deaths per year from consumption. Probably this figure is too low by 10 per cent. to express the total number of deaths from all forms of tuberculosis. But allowing the number to be 1500, that would express perhaps three fourths of the number of new cases which develop each year within the state. If my estimate is correct, therefore, we have to consider: (1) That there develop in Michigan every year 2000 cases of tuberculosis. Of this number 10 per cent. are in such financial circumstances as to exclude them from present consideration. An additional 20 per cent. may be safely estimated to be unfit for sanatorium treatment by reason of the hopeless virulence of their disease, peculiar complications, or too long delayed diagnosis of their condition. Another 10 per cent. at least will leave the state for one cause or another. (2) This leaves us to consider that there are in Michigan about 1200 new cases of tuberculosis every year which are suitable for sanatorium treatment, and which under present conditions must be treated at their homes or at least within the state.

In the Massachusetts institution at Rutland the average stay at the hospital of those cases classed under "arrested" and "much improved" for the year ending October 1, 1899, was four months (see Third Annual Report of the Massachusetts Hospital for Consumptives, etc.). This, however, is too short a time for the attainment of the best results. In Dr. Trudeau's fifteen years' experience at the Adirondack Sanitarium, his best results were attained with an average stay of eight and three-quarter months ("Sanitarium Treatment of Incipient Pulmonary Tuberculosis and its Results," MEDICAL NEWS, June 2, 1900). In a state institution it would for obvious reasons be impossible to average so long a stay, even for the most favorable cases, and six months would be a generous estimate, while the unfavorable cases would be discharged very much sooner, as soon, indeed, as a fair trial had proved the futility of treatment. We have then to consider: (3) That sanatoria in Michigan with a combined capacity for 500 patients would fulfil our present requirements in this direction, allowing an average stay of four months to each patient.

As to cost. It has not been found practicable, either in Europe or in this country, to treat this class of patients in groups of more than 200. In Germany there are no institutions with a capacity greater than that, while, as before stated, the Massachusetts Hospital at Rutland has a maximum capacity of 175, and when recently there was a movement on foot to enlarge the buildings for the purpose of accommodating a larger number of patients, Dr. Bowditch and his associates strenuously opposed such a measure for reasons admittedly sound. It would, therefore, require three separate plants to fully meet the demand in Michigan. It would not, however, be necessary at first to ask for appropriation for more than one, since such innovations require practical demonstration of their usefulness to convince the people in general and the patients in particular that they do what is claimed for them. I judge that, with the advantage of the experience of Massachusetts and New York, we in Michigan might build and equip institutions which would be models of their kind, at a cost of $150,000 each. Then would follow the expense of maintaining them. Here again we may turn to the object lesson in Massachusetts. Dr. Marclay informs me that with full capacity the per capita expense of running that institution is $8.40 per week. Of this the patients pay a uniform rate of $4.00 per week, which leaves it necessary for the state to appropriate the balance. This plan of relieving such institutions from the

odium attaching to a purely "charity hospital" and the state from just so much expense, I should most certainly advocate, except that some provision should be made for allowing favorable cases to remain as long as necessary to effect most permanent results, even if they should be unable to continue paying the nominal rate charged.

In this connection Dr. Trudeau, whose long and successful experience adds weight to his advice, writes me as follows: "It seems to me that if you could get an appropriation of $8.00 per week for each patient, with care it might be run on that basis. From my experience I would say that the whole success of the thing will depend on two things; first of all, the class of patients you admit, and the obtaining of incipient cases is surrounded with difficulty. Secondly, the manner in which the institution is run and controlled, and the site which it occupies." And it seems to me that right there is the gist of the whole expense question. If we can be assured of a good management and can keep our proposed sanatoria free from "pot-house" politics we can promise the state that the necessary appropriations, after the initial cost of construction and equipment is met, will be comparatively insignificant.

Before concluding let me for a moment point out the feasibility of the establishment of state sanatoria for consumptives in Michigan.

First, as to the mooted question of climatic influence in tuberculosis. That Michigan does not furnish the most salubrious climate in the world, I will not deny; indeed, I am ready to agree that, all other conditions being identical, a consumptive might do better in any one of several other localities; but I also contend that the chief advantage thus derived would lie in the greater number of hours of sunshine to be enjoyed out of doors and not in the high altitude and rarefied air. The elevation of the Massachusetts Hospital at Rutland is 1200 feet above sea level. This is obtainable in many Michigan localities. Hillsdale County, for instance, the highest elevation south of the Grand Saginaw valley, is about 1200 feet. The Adirondack Cottage Sanitarium is situated at an elevation of about 1600 feet. This height can be obtained in Michigan in the northern portion of the southern peninsula, notably in Antrim and Otsego Counties, where a gently-rolling, well-wooded and magnificently-watered plateau reaches in several culminating rises an elevation of nearly 1800 feet above sea level. Moreover, other climatic conditions obtainable in Michigan are at least equal in healthfulness to those at Rutland and not much inferior, heretical as it may seem, to the Adirondack region. I think it safe to say that in properly managed sanatoria, suitably located, and officered by men selected for their professional ability alone, irrespective of political considerations, we might expect fully as large percentages of "apparently cured," "disease arrested" and "much improved" in Michigan as are reported from any institution of the kind in the world.

In any event, we must remember that the class of patients which we are considering must of necessity be treated and cared for in Michigan, whatever may be the disadvantages of its climate. And admitting that the "open-air sanatorium treatment" not only offers to these patients the best chances for recovery, but is a most potent factor in preventing the spread of the disease. That such institutions as are asked for, with their maintenance, are reasonably within the financial competency of the state, I think we must all agree; also that the establishment of such institutions would be a perfectly feasible measure and one which if adopted would yield amply satisfactory returns to the people of the state.

At first I would advocate the securing of an appropriation for but one plant, to be situated in a locality reasonably accessible to the larger cities of Michigan, such locality to be selected for its peculiar fitness for the purposes intended, by a commission also selected for the special fitness of its members for the work intrusted to it.

Such an institution should, in my opinion, be officered by a "visiting staff" of not more than four physicians, who should be appointed by reason of their professional experience and ability, who should have quarterly terms of service, without remuneration, and who should govern not only the treatment of the patients but the selection of suitable cases for the sanatorium and have immediate supervision of the "resident staff" which should, of course, be salaried.

This subject is one which can receive but a very small part of the attention which its importance merits in any limited discussion, but it is one which we certainly owe it to ourselves and to the community in which we live to give our most thorough consideration. And to that end I shall at the proper time offer a resolution at this meeting of our Society for the appointment of a special committee whose duty it shall be to bring the matter properly before our next legislature.

I am aware that the subject has before been exploited at previous meetings of our legislature, but never before with so much to offer in demonstration of its importance or the success which has attended recent movements of the sort in other states, and in the present case I am sure that the voice of the sentiment of this Society is that of one man; and if I am right in so thinking the eventual realization of the idea is certain.

A STUDY OF DRAINAGE.

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I PURPOSE to show in this paper that drainage, so far from being the necessity it was once believed, is of value in comparatively few cases, and in others is a positive detriment. Before passing to a direct discussion of the topic, however, I wish to consider some features of the

pathology of the blood and wounds in general.

In wounds with an external solution of continuity an abundance of blood serum is deposited immediately upon injury in and about the injured surface. This serum is of itself an antiseptic, inasmuch as it agglutinates apposing tissue and by so doing resists invasion of foreign and toxic elements that would endanger the function of repair.

Fortunately this serum is insoluble except in a weak solution of salt and water, so that repeated washings do not deprive the injured tissues of their protection without which suppuration would be the invariable result. I believe that the medical world now is unanimous in asserting that any wound, free of infection, heals spontaneously without any of the elements of inflammation and especially without pus.

This brings us to a consideration of the process known as chemotaxis, the faculty possessed by all motile bacteria of moving toward or away from certain substances according as those substances attract or repel them. This motility is also possessed by leucocytes and other plasmodiæ. Bacteria move toward any material that furnishes them nutriment, hence bacteria have an affinity for leucocytes and leucocytes an equal affinity for bacteria. The leucocyte acts the rôle of a natural scavenger and responds promptly to chemotactic attraction upon introduction of foreign, dead or offending material, by enveloping or appropriating such substance and removing it. Thus bacteria and leucocytes being mutually attractive, although the function of one is to destroy while the office of the other is to preserve, are forces arrayed against each other, and it is simply a question of resistance and physical perfection whether an injury is protected by leucocytes and goes on to complete repair without interruption, or suffers loss and delay by the energetic attempt of the bacteria.

Blood-serum consists of proteid material, which in suppuration first attracts the bacteria, and leucocytes, which oppose them. The pus is composed of leucocytes which have perished in the struggle.

Of the class of injuries in which there is no solution of continuity, such as abscesses, intra-abdominal and others, the process of repair is the same as that above described, infection taking place from invasion of bacteria through the colon, uterus, tubes, tonsils, lymphoid structures and other recognized avenues.

It is apparent that one seldom if ever sees infection about a simple fracture, because its location is removed from any avenue of entrance for bacteria. The process of repair is therefore not attended by inflammation, but consists of hyperemia or determination of the blood-cells accompanied by dilation of the blood-vessels. Stagnation of the blood-current and the pressure produced by the vast number of blood-cells cause pain by pressing on the nerves, but, as soon as the circulatory disturbances subside, the pain ceases, the congestion and hyperemia disappear, and no pus is formed.

In any injury infection may, of course, be favored by certain physical conditions, such as already existing toxemia, anatomical changes which lower vitality, variation of nutrition, and unhygienic surroundings. There is also good reason for believing that prolonged anesthesia, by lowering the arterial pressure and limiting the amount of oxygen inhaled during a long operation, may produce such changes in blood and tissue as to interfere seriously with the necessary processes of repair and chemotaxis and thus facilitate infection. Even antiseptics, if employed too lavishly may, I believe, favor infection by poisoning the leucocytes and checking their action on the bacteria.

In addition to the conditions mentioned above infection may result from imperfect sterilization, whether of the skin and hair of patient and operator, which is indeed difficult of attainment, or of the instruments, gauge, suturing material, etc., used in the operation.

Having hinted at the action of the chemotaxis in the formation of pus and at the physiological protection afforded by the blood-serum and having also reviewed the forces causing infection and thus creating a demand for drainage, we are now prepared to consider the specific subject of this paper.

Drainage was first used to remove the pus which was the inevitable concomitant of surgery before the present era of asepsis and antisepsis. Drainage was then considered, and justly, a necessity, since without it absorption of poisonous material was inevitable.

Latterly we have drained to prevent pus formation, a process to my mind essentially unscientific. In a recent text-book occurs the expression, "Drainage empties the surface of blood-serum." So it does, but why do we want to empty the surfaces of the blood-serum, since, as we have seen, the serum acts as an antiseptic, occluding all dead spaces and promoting repair? Furthermore, the very presence of the drain, no matter how sterile the gauze may be, excites by irritation an increased amount of serum and the formation of blood clot; the excessive serum is then drawn by capillary attraction throughout the extent of the drain until all is moistened, creating a direct communication from a sterile wound cavity to an intensely infected atmosphere, providing a highway, if you please, for infection, at one end of which is blood-clot, an ideal culture medium for bacteria, at the other end myriads of bacteria anxious to be cultured. In the same text-book referred to above we find this statement, "The function of the gauze is complete after a few hours and may be removed." But its presence during even the few hours has altered cell-activity by its irritating action, and after its removal more serum must be formed that will protect the injured surfaces, fill up the dead spaces and promote restoration.

In certain of the septic and infective cases we must, of course, continue to drain, thereby sustaining the position of the older men who drained because they knew pus would form, as we now drain because we know pus *has* formed. I purposely state that we must still continue to drain some of the septic cases, for I want to be emphatically understood that I believe many of our septic cases can be made sterile and the wound closed without drainage.

In abdominal surgery the same general rule remains applicable, but here we also have other means of combating infection, *viz.*, purgation. It has been demonstrated beyond dispute that anything which interferes with the absorbability predisposes to infection. This is doubly true of the peritoneum, and free purgation promotes absorption by lessening the stasis of intestinal and peritoneal vessels.

Waterhouse has given us many interesting statements of experiments concerning the relations of blood-elements and toxins. He injected 6 c.c. of a cloudy culture of staphylococcus aureus into the peritoneal cavity of dogs without serious results; he then injected 8 c.c. of urine and small amounts of blood, likewise without serious results. Finally, he injected blood-clots and small amounts of a culture of staphylococcus aureus, resulting in a rapidly-developing peritonitis and death in twenty-four hours. This certainly should teach us that we must protect the blood-clots from invasion by bacteria, and the question arises, Can we do this by drainage? There is a fixed relation existing between the power of absorption of the peritoneum and the possibilities of infection. It has been positively proved that the peritoneum not only can, but does, dispose of large amounts of pyogenetic material as long as its absorbability is not interfered with; the less absorption the greater the danger, hence anything tending toward irritation of the peritoneum, promoting stasis of its vessels and retarding absorption, is a source of danger. Is, therefore, a foreign body like a drain tolerated by the peritoneum any more than any other irritant?

By diluting infection we promote absorption. The peritoneum can take care of a weakened solution of infectious material much more easily than it can make immune a surface constantly producing sepsis. A salt solution may be useful here, inasmuch as it is solvent to blood-clots, is itself a physiological fluid, and is very readily absorbed by the peritoneum and intestines, experiments showing that the normal peritoneum is capable of absorbing from three to eight per cent. of the body weight in one hour and the entire weight of the body in twenty-four hours. In its altered state, as produced by disease, we cannot say how much fluid it is able to absorb; we do know, however, how to stimulate the absorbability even of a diseased peritoneum.

Many unfortunate sequelæ follow in the wake of abdominal drainage. Hernia is common and may be said to be caused by drainage, the presence of which through the layers of the abdominal wall has lessened the cell-activity and weakened the repair. No other cause of ileus is so common, and removal of the gauze drain, when the tender granulations have grown through the meshes of the drain and are rudely torn, causes intense pain and sometimes serious relapse. We have seen that blood-serum plays an important part in the repair of wounds; that chemotaxis bears an important relation to pus formation, and that, *in sterile cases*, drainage is not only unnecessary but positively detrimental. Let me, therefore, urge upon you that, having given the patient the benefit of scrupulous care directed toward securing perfect sterilization, you restrict the use of drainage to those cases in which all the means at your disposal fail to render aseptic and non-infective.

CLINICAL MEMORANDUM.

A NEW URETHROTOME.

By GEORGE RUBIN, M.D.,
OF CHICAGO, ILLINOIS.

THIS urethrotome consists of three separate parts, *viz.*, a grooved shaft with bulb, a knife and a filiform (Guyon) conductor.

The grooved shaft is of small caliber, having at its lower end an olive-shaped bulb which conceals the blade. The lower third of the shaft is flexible; it bends either forward or backward, according to the manner in which it is to be used. At the upper end of the shaft are placed two fine screws which serve to arrest the blade within the bulb. When both screws are closed, the knife is fixed in the bulb and the instrument may be used as an exploratory sound without the least danger of injuring the urethra. When cutting forward, the right screw is closed and the left one opened, and after the incision is made, the knife is pulled back into the bulb, where it is automatically arrested. The operator, after each incision, will draw in the knife and try to pass the bulb; if the bulb does not go through, the instrument is turned a little to one side and another incision is made. If it still does not pass, the instrument should be turned around to the opposite side, and then posteriorly, etc., until the surgeon is able to pass the bulb with comparative freedom, because if the passage of the bulb is interfered with or requires some force to pass, it would show that not all the bands of cicatricial tissue have been severed.

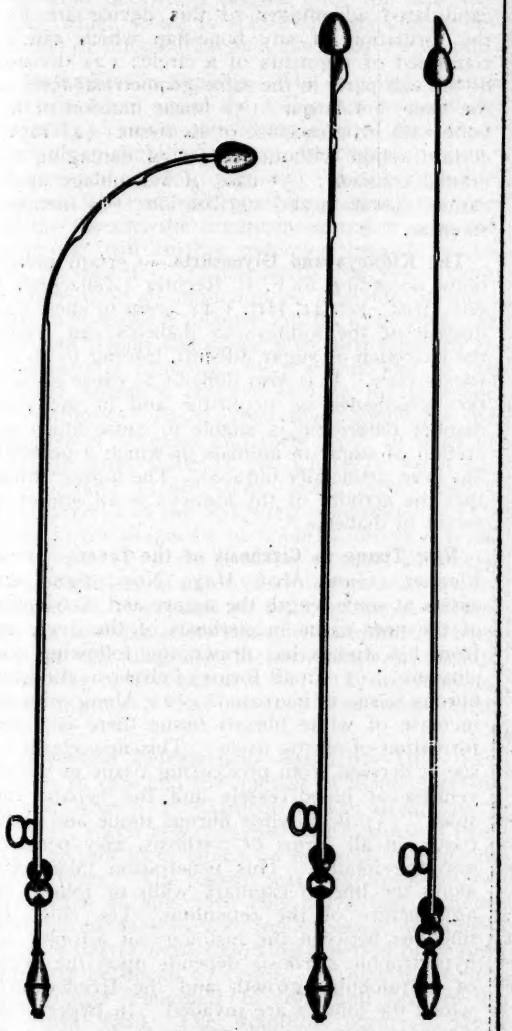
The knife is mounted on a very slender, flexible steel shaft, like the Maisonneuve, but the knife is not like Maisonneuve's, as the sharp edge extends over its whole convexity.

The conductor is a woven-fabric filiform bougie like Guyon's conductor, with a screw by which it can be connected to the apex of the bulb.

The filiform bougie serves as a guide and always directs the blade to the center of the lumen.

The urethrotome is most simple in construction and very easy to manipulate, and it is a very safe instrument in the hands of a non-specialist.

FIG. 1.



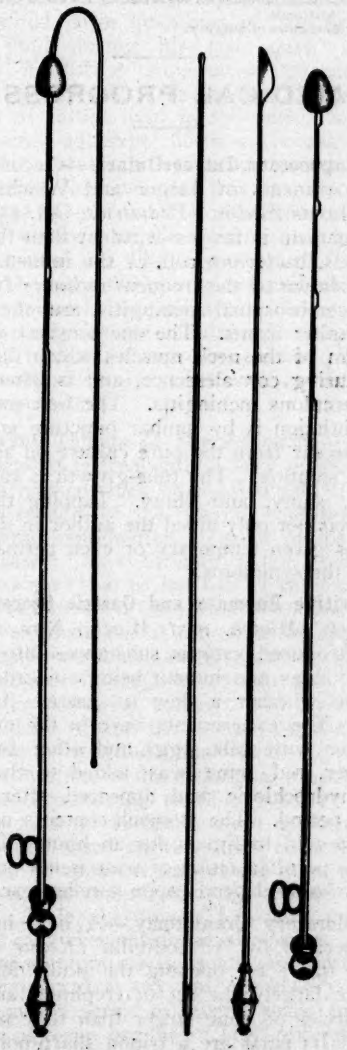
New Urethrotome.

All the parts are separate and uncomplicated and it is therefore easy to render them aseptic.

It is the only urethrotome with a bulbous end where the knife comes out in front of the bulb. The bulb keeps the healthy portion of the urethra distended and exposes the constricted portion to the knife; in this way it does not matter how narrow or how wide the stricture may be, the results will be practically the same. To cut a stricture of very large caliber, the bulb is passed beyond the stricture, and on the attempt to withdraw the bulb the stricture will naturally resist, so the bulb is retained in place and the knife is drawn backward, and if it still resists one proceeds in a similar manner as cutting forward and as many incisions are made in the circle as are necessary to permit the passage of the bulb without the least resistance.

By closing the left screw and opening the right one the knife will be arrested when its whole length is out, and when it is pushed back it will be again concealed within the bulb. Another and an entirely new feature of the urethrotome is

FIG. 2.



New Urethrotome and Stylet.

its flexibility which is more than is necessary to accommodate the curve of the urethra.

Two urethrotomes—one with a bulb No. 27, and another No. 23, metric scale—ought to be sufficient for all practical purposes, the former

being of the average size of a normal urethra (adult), and the latter suitable for patients with abnormally narrow urethras or in cases of young adults.

When internal urethrotomy is decided upon, I believe it is best to at once reestablish the constricted portion to its normal caliber, and thus save ultimate lacerating with sounds in the after-treatment.

The instrument is made at the present time by Collin, Paris, and Truax, Greene & Co., Chicago.

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MEDICAL PROGRESS.

Meningococcus Intracellularis.—According to the experiments of Jaeger and Weichselbaum, writes Louis Fischer (*Pediatrics*, Oct. 15, 1900), this organism is far less virulent than the pneumococcus, bacterium coli, or the influenza bacillus, as shown by the frequent recovery from epidemic cerebrospinal meningitis, and the fatality of the other forms. The one constant symptom is spasm of the neck muscles which disappears only during convalescence, and is often absent in tuberculous meningitis. The best method of differentiation is by lumbar puncture and staining a smear from the pure culture on agar with Ziehl's solution. The tube-growth is rapid, yellowish, shiny, and slimy. Tapping the spinal canal has not only aided the author in diagnosis, but has given temporary or even permanent relief of the symptoms.

Nutritive Enemata and Gastric Secretion.—L. Metzger (*Münch. med. Woch.*, Nov. 6, 1900) has introduced various substances into the rectum of dogs and human beings in order to determine whether a flow of gastric juice took place. The experiments have in the main been negative with milk, eggs and other foods. If, however, red wine was added to the clyster, free hydrochloric acid appeared after a short latent period. The stomach-contents usually remained acid to litmus for an hour. The cause for the peculiar action of wine is not quite clear, but probably depends upon a reflex excitation.

Exploratory Craniotomy.—A new instrument is described by A. Codivilla (*Revue de Chir.*, Nov., 1900) for opening the skull, designed to replace largely the set of trephines and to cut out circles of bone larger than they make possible. Its parts are a tripod sharp-pointed center, transfixed vertically and centrally by a screw which passes through the skull and forces the points of the tripod into the outer table. Upon this center revolves a sleeve which carries the handle, hinged horizontally upon it. The handle presents a longitudinal slot, with a graduated scale along its upper face. In this slot plays the cutter-carrier which has thumb screws for setting it at any point of the scale and for advancing the depth of the cut into the bone. With the center *in situ* and the blade placed, the handle is carried round the pivot under manual pressure till the tables are divided when instrument and bone-button are removed together. The recapitulated advantages of this device are (1) the formation of any bone-flap which can be composed of segments of a circle; (2) division of the soft parts in the same geometrical form as the bone, but larger; (3) linear incision of the bone with little sacrifice of its tissue; (4) rapid, certain action without danger of damaging the cranial contents; (5) ease of assemblage application, operation and sterilization; (6) inexpensiveness.

The Kidneys and Glycosuria.—Certain indications, according to F. P. Rechter (*Zeitschrift f. klin. Med.*, Bd. 41, Hft. 1-4), seem to show that disease of the kidneys in diabetes can render the excretion of sugar difficult, leading to an apparent cure. It is also difficult to cause alimentary glycosuria in nephritis and in the same manner phloridzin is unable to cause much excretion of sugar in animals in which a nephritis has been artificially induced. The author thinks that the activity of the kidneys is an important factor in diabetes.

New Tissue in Cirrhosis of the Liver.—Simon Flexner (*Univ. Med. Mag.*, Nov., 1900) discusses at some length the nature and distribution of the new tissue in cirrhosis of the liver, and from his studies has drawn the following conclusions: (1) In all forms of cirrhosis the white fibrous tissue is increased. (2) Along with the increase of white fibrous tissue there is a new formation of elastic tissue. This new elastic tissue is derived from preexisting tissue in the adventitia of blood-vessels and the hepatic capsules. (3) Both white fibrous tissue and elastic tissue, in all forms of cirrhosis, may penetrate into the lobules. This penetration takes place along the line of capillary walls or follows the architecture of the reticulum. The chief distinctions between the histology of atrophic and hypertrophic cirrhosis depends upon the degree of extralobular growth and the freedom with which the lobules are invaded. In hypertrophic cirrhosis there would appear to be less interlobular growth and an earlier and finer intralobular growth. (4) The alterations in the reticulum, *per se*, consist, as far as can be made out at present, of hypertrophy rather than hyperplasia of the fibers. It is still uncertain whether any of the differential methods now in use suffice to distinguish between the reticulum and certain fibers derived from the white fibrous tissue of the periphery of the lobules.

Absorption and Metabolism in Apepsia Gastrica.—In a series of cases of apepsia or achylia gastrica, F. Strauss (*Zeitschrift f. klin. Med.*, Bd. 41, Hft. 1-4) has found the absorptive powers

of the gastric mucous membrane unchanged. Even in the intestines the food is utilized to almost the same degree as in health provided diarrhea was not present. Experiments with metabolism did not indicate that any pathological destruction of albumin occurred and the toxicity of the urine was remarkably low. Cases suffering from pernicious anemia gave the same results, which seems to speak strongly against inanition or intoxication as a cause for the anemia.

Justus Test in Syphilis.—The so-called "Justus test" is based upon the following proposition: Mercury destroys the hemoglobin of the blood. In the non-syphilitic subject, the organism rapidly replaces the lost pigment. In the syphilitic patient, however, the percentage being reduced by the disease, the organism cannot at once restore the still further reduction caused by the use of mercury. Consequently the first examination after an inunction or injection of mercury will show a distinct fall of from 10 to 20 per cent. This reduction is in turn followed as treatment is continued by a steady rise to the normal, where it remains so long as treatment is continued. Based upon their application of the test in 29 cases and their study of it as to its diagnostic value H. M. Christian and Otto H. Foerster (*Univ. Med. Mag.*, Nov., 1900) have arrived at the following conclusions: (1) That in the diagnosis of doubtful ulcers it is of no value. (2) That it seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete. (3) That as a test it is not reliable, occurring as it does in conditions other than syphilis.

Idiopathic Phlegmonous Gastritis.—This disease is so rare and the number of cases reported so small that F. P. Kinnicutt (*Phila. Med. Jour.*, Nov. 17, 1900) reports a case which is one of two only of this form which he has seen in a good many years. The patient was a plumber, forty-one years of age. He had never had trouble with his stomach except after excessive drinking. After a hearty meal following a period of heavy drinking he began to vomit. At first the vomited matter consisted of food and later of a brownish fluid. The vomiting occurred frequently for four days irrespective of the taking of food. He had slight diarrhea. There was not any blood in the vomited matter or the stools. Some acute and more or less constant pain was present in the epigastrium and in the lower abdomen. The patient's pulse was 108, temperature (rectal) 101° F., and respiration shallow and 48 to the minute. The patient was anxious, restless, and undoubtedly very ill. Physical examination showed chiefly that the abdomen was moderately distended, with considerable rigidity of the abdominal walls, especially in the upper half. Slight sensitiveness on palpation was present, most marked over the epigastrium and the right hypochondrium. Slight crepitation was heard over the liver region and over the left hypochondrium. There were no signs of free fluid in the peritoneal cavity. Abdominal respiration, though present, was diminished. Urine, specific gravity 1025, was negative except for a few hyalin and granular casts. Lavage was employed and an odorless yellowish-brown fluid was returned. A general peritonitis was believed to exist, the supposed cause being an acute pancreatitis or a perforating ulcer of the duodenum. Preparations were made for an exploratory laparotomy, when the patient rapidly failed and died. He vomited large quantities of the yellowish-brown fluid during his last hours. Autopsy showed a diffuse suppurative gastritis and general peritonitis. There was a moderate amount of turbid fluid in the peritoneal cavity with some adherent fibrinous exudate. The walls of the stomach, which was normal in size, were greatly thickened due to a purulent infiltration of the submucosa. This thickening amounted to fully an inch at the pylorus and for three inches around it. The lower end of the gullet showed the same thickening and infiltration. The changes found in the stomach walls were swelling, softening, intense cellular infiltration, and a countless number of micro-organisms. The bacterial examination showed the universal presence of a streptococcus.

Apparent Tumors of the Abdomen.—Abdominal diagnosis is frequently a very difficult problem and eminent men have often said that they are seldom sure of the internal condition, after an external examination, even in comparatively simple cases. Max Einhorn (*Med. Rec.*, Nov. 24, 1900) says that he has had 42 cases of apparent tumor out of a total number of 6045 cases. These were instances of a mass in the upper part of the abdomen which could easily be mistaken for a neoplasm. He believes that they may be due to the following causes: (1) Prolapse of the left lobe of the liver; (2) exposure and thickening of the abdominal aorta; (3) hypertrophic condition of the abdominal muscles; (4) adhesions around the small curvature of the stomach. As no autopsies were performed his opinions are based entirely upon clinical examinations. In apparent tumors the mass presents a more or less smooth surface, with no distinct nodules. It is not always felt with the same ease and may even disappear altogether. A high degree of enteroptosis is usually associated with it. It may occur at any age; the history usually extends over a period of several years, and malnutrition is very gradual. The differentiation from malignant tumors is, however, very difficult at times and may be impossible.

Treatment of Cholelithiasis.—K. Witthauer (*Münch. med. Woch.*, Oct. 23, 1900) thinks that gall-stone operations are done too frequently at present and recommends that where fever and

enlarged gall-bladder are absent surgical interference should be deferred until medical treatment has been given a fair trial. The treatment at Carlsbad no doubt is best, and after this the administration of olive oil. This is first to be tried by mouth, with peppermint oil as corrigent, and only when the repugnance toward oil is great may it be given per rectum. Although this method is considered by many as antiquated, the author has found it necessary to advise operation only 5 or 6 times during his experience.

Cardiac Wounds.—Three recoveries among eleven cases of wound and suture of the heart in literature have been collected by F. Ferrier and E. Raymond (*Revue de Chir.*, Oct., 1900). The following conclusions have been reached: (1) The best flap for abscess is a thoracic trap-door with the hinge outward. (2) It is best not to open the pericardium across the pleura, but to carefully push this aside laterally. (3) Interrupted sutures are as a rule best for the cardiac wound itself. (4) In the majority of cases a drain is not needed for either the pericardium or the pleura.

Etiology of Eczema.—The predisposing causes of eczema are so numerous and diverse that the theory is frequently advanced that this may be an instance in which a single name is given to several distinct and separate conditions. L. D. Bulkley (*N. Y. Med. Jour.*, Nov. 17 and 24, 1900) has given a complete résumé of the multitudinous predisposing and exciting causes and is inclined to agree with Brocq that "eczema is the image itself of the life, the reflex on the skin of the constitution of the individual." The parasitic theory of causation was fully discussed at the International Congress last summer and the results may be summed up as follows: The majority of dermatologists do not regard eczema as a parasitic disease, due to a specific organism. The micrococcus of Unna is almost universally regarded as an ordinary staphylococcus with a slight peculiarity in its growth. Many observers are convinced of a local predisposition to eczema in the seborrheic state and a general predisposition in the circulation of various toxins in the skin, from the improper assimilation of food and other toxin-producing pathological conditions.

Atropine in Intestinal Obstruction.—That cases of acute intestinal obstruction, where immediate operation seems the only hope, sometimes are cured by large doses of atropine is evident from the case cited by B. Marcinowski (*Münch. med. Woch.*, Oct. 23, 1900). When first seen the patient was in collapse, with extremely tender abdomen, tympanites and vomiting. The following evening, after the vomitus had already become feculent, ½ of a grain of atropine was injected with the result that the absolute constipation was relieved and that the collapse symptoms slowly disappeared. After fourteen days the patient was up and about. An equally perfect result was obtained with the same large dose of atropine in a case of incarcerated hernia which had already been prepared for operation.

Intestinal Rupture.—J. J. Buchanan (*Annals of Surgery*, Nov., 1900) submits a case of traumatic rupture of the intestines with operation and recovery. The following are the points of interest; (1) Extensive peritonitis and free exudate within six hours after the injury; (2) rupture of the intestine without sign of external injury by an apparently slight blow; (3) almost entire absence of symptoms except failure of peristalsis and slight vomiting; (4) apparently favorable effect of Fowler's posture in the after-treatment; (5) entire adequacy of a long glass tube drain down to the pelvis, cleaned every half hour for the first day and at longer and longer intervals for the first four days.

Malaria.—J. McFarland (*N. Y. Med. Jour.*, Nov. 17, 1900) reviews the knowledge of malaria and shows the important advances made since 1880, *viz.*, the discovery of the plasmodium by Laveran, the discovery of its developmental cycle in man by Golgi, and its developmental cycle in the mosquito by Ross. The proofs are now complete that it is the *Anopheles claviger* which carries the organism from man to man. After sucking the infected blood from a human being, the mosquito harbors the parasites which undergo a cycle of development in about three weeks, and minute embryo-parasites are formed which are excreted in the saliva. To be infected with malaria, therefore, it is necessary to be bitten by a certain kind of mosquito at a definite time after it has been infected by the blood of a malarial patient. It is not the bite which causes the trouble, but the presence of the embryo-parasites in the saliva of the mosquito.

Puerperal Fever.—The usual treatment of this lamentable condition in the Bürgerspital, Hagenau, says Victor Steiner (*Centralbl. f. Gynek.*, Nov. 3, 1900) is as follows: Local disinfection of the vagina is striven for by copious lysol douches, 1-to-1000; after this the uterus is freely irrigated with kresol, half of one per cent., through the largest obtainable male catheter. Kresol is not only powerfully antiseptic, but relatively non-toxic, and in solution is clear so that blood-clots, fragments of placenta and shreds of membrane may be easily perceived in it. Extension of the inflammation into the pelvis demands cold locally. Quinine in large dose is used to combat chills due to the intra-uterine douches. Absolute quiet and perfect regulation of the bowels are absolutely necessary. Opium is often indicated, but may constipate; a fact often causing rise in the temperature. Serumtherapy has not been very successful.

Delirium Tremens.—The necessity of quieting a patient suffering from alcoholic delirium is easily appreciated, but it is oftentimes found a most difficult task even after large and frequent

doses of narcotics have been used. Good results have recently been reported from large doses of digitalis used especially at Bellevue. C. J. Douglas (*N. Y. Med Jour.*, Nov. 17, 1900) after considerable experience again urges the efficacy of apomorphine hypodermatically in doses of 1/30 of a grain. He says that the stream of consciousness can be shut off with valve-like precision by this method. Patients should not be restrained by physical force. It is needless and ineffective. Alcohol in some form should be prescribed, as its sudden withdrawal aggravates the disease and sometimes causes it. They should be nourished with milk, egg-nog or some other liquid food. The apomorphine acts within five or ten minutes and lasts from four to five hours. It may then be repeated. It seldom causes nausea.

Some Experiences with Fersan.—It is well known that, in giving iron in inorganic form, one must give much larger doses than are actually utilized and that gastro-intestinal disorders are almost invariable concomitants. The latter is also true of many organic preparations, not a few of which are unable to improve the composition of the blood. J. E. Folkel (*Münch. med. Woch.*, Oct. 30, 1900) speaks well of fersan, an acid albumin obtained from the red blood-cells. Not only as a blood tonic does fersan rank high, but as albuminous food it is only excelled, among the newer preparations, by plasmon. Special advantages are the high percentage of phosphorus which the drug contains, the entire absence of gastric disturbances, even after long use, and the rapidity with which the impoverished blood reaches the normal. Neither phthisis nor nephritis are contraindications to its use.

Eucaine in Medullary Narcosis.—To ascertain whether eucaine B would be an advantage over cocaine in spinal cocainization F. Engelman (*Münch. med. Woch.*, Oct. 30, 1900) had 1/6 of a grain injected into his subarachnoid space. After half an hour wandering pains were noticed in the small of the back which became intensified during the next hour, so that sitting on a chair was impossible. About the same time nausea, followed by protracted and severe vomiting, occurred and soon 8-10 chills and severe headache. On assuming the recumbent position the lumbar pains diminished, but the headache became almost unendurable and was coupled with an attack of dyspnea, excitement and precordial pain. The following day the pains persisted and even during the next week occasional neuralgias reminded the author of the experiment. It is noteworthy that not the slightest trace of anesthesia, even in the lower extremity, was present.

Thyroid in Cretinism.—J. H. Musser (*Internat. Med. Mag.*, Nov., 1900) reports several cases which appear to be on the borderlands of cretinism. Many of the features of these cases were lacking so that the diagnosis might be overlooked. Mental deficiency seemed to be the more prominent symptom in these patients. They were trained with the greatest difficulty and their personal habits were usually very uncleanly. Fits of temper, fretfulness and peevishness were common. Some of them showed a few characteristic features of this disease, especially in the development and contour of the face. The thyroid extract was very efficient in all these cases.

Functionating Power of Kidney After Nephrectomy.—Catheterizing the ureters in renal cases has been an enormous advance in surgery. It discloses the presence of a second organ and, to a certain extent, its functional value. There are many cases, however, where this method fails, as, for instance, where, usually owing to a tuberculous process, the bladder has so changed its shape that it is impossible to find the ureteral orifices. In such cases resort may be had to the following methods, according to H. Kummell (*Münch. med. Woch.*, Oct. 30, 1900): (1) The determination of urea. (2) The determination of the freezing-point of the blood. (3) The determination of the freezing-point of the urine. (4) The administration of methylene blue or phloridzin with subsequent examination of the urine. The first method is undoubtedly the simplest, but is the least trustworthy owing to the marked normal variations in the amount of urea excreted. Yet it may be said that a reduction down to 15-16 grams daily indicates insufficiency. A much more accurate method is the second. It has been found that normal blood has a freezing-point 0.56° C. below that of distilled water. A diminution of the freezing-point down to 0.50° C. or lower indicated in all cases that the kidneys are not functionating properly and contraindicates operation. Instead of blood, urine may be tested, when a freezing-point of minus 0.9° C. indicates renal insufficiency. This, however, does not hold true so absolutely as in case of blood. By means of a special apparatus the seemingly difficult experiment is rendered very simple. Cryoscopy, this new method of determining the functional quality of the kidney, promises to give some important results.

Extract of Testicle in Tabes.—The glowing reports which were made by Brown-Séquard upon the beneficial effects of this animal extract, especially upon himself, a man of seventy-two, has led to further investigation in many diseases. Tabes dorsalis and sclerotic diseases of the spinal cord are the conditions which have been most frequently treated by this drug. D. J. McCarthy (*Internat. Med. Mag.*, Nov., 1900) finds that even when the disease is rather far advanced there is often a certain amount of stimulation, the tone of the pulse becomes better, and the sexual hope of the patient may be resurrected by emissions and erections. There is, also, an increase in weight and nutrition usually following this mode of treatment; but the effect proves to be only an amelioration of the symptoms.

THERAPEUTIC HINTS.

Diphtheria.—Antitoxin treatment should be undertaken in every case and with all haste, writes Gilman Thompson. The patient's room should be kept at temperature of 68° F. with a tea-kettle or croup-kettle to render the air moist, or the steam may be directed under a tent improvised over the patient. The diet may be milk, broths, gruels, meat juice, egg albumin, oatmeal or barley-water, and ice cream. If swallowing is difficult peptonized milk and white of egg should be given every five hours. Thirst demands water and cracked ice. A temperature of 103° F. may require sponge baths at 80° F. The medicinal treatment consists of the following:

℞ Tinct. ferri chlorid. 0.7-2.0 (♏ x-xxx)
Glycerin.... .....
Aquæ .....aa. 8.0 (℥ ij)

every three hours, and mercury bichloride, gram 0.001 (gr. 1/60), q. 2 h., for a child of two years. For failing heart brandy is the best stimulant, with digitalis or strychnine, gram 0.0005 (gr. 1/120). The local treatment is chiefly directed to cleansing the mouth and nose. Irrigations are best and may be given with the child laid horizontally on a table, the head low, and the mouth directed toward the edge. The solutions best adapted for irrigation are: (1) Carbolic acid 3, alcohol 30, and water 70 parts; (2) bichloride of mercury 1 to 2000, with 4 or 5 parts of tartaric acid; (3) peroxide of hydrogen; (4) 1-per-cent. creolin; (5) Löffler's solution, which consists of:

℞ Menthol..... ..... 10.0 (℥ iiss)
Toluol q. s.....ad. 36.0 (℥ ix)
Liq. ferri chloridi..... 4.0 (℥ j)
Alcoh. absol..... 60.0 (℥ ij)

All irrigations are lukewarm, never forceful, and may be used every two or three hours, or every hour in severe cases. For nasal use the above must be diluted. For a laryngeal membrane syrup of ipecac, one or two teaspoonfuls, or mercury subsulphate, gram 0.12 (gr. ij), may be employed early, or, better, calomel, gram 0.7 (gr. x), may be vaporized on a tin dish and inhaled.—*Practical Medicine.*

Chronic Catarrhal Colitis.—Treat, not only the colitis, but rather the general physical condition, flatulence, nervous symptoms, etc., says Delafield, and do not look at the feces too often lest the patient's mind dwell too much upon them. Give plenty of mixed diet, noting the effect of special foods. Advise plenty of fresh air and exercise, and horseback or bicycle riding. Keep men at business. If constipated give the mildest laxatives; if there is diarrhea the bismuth preparations are harmless and please the patient. The routine medication consists of capsules of castor oil, gram 0.3 (♏ v), and salol, gram 0.3 (gr. v), or cubebs, gram 0.3-0.7 (gr. v-x), acid arsenous, gram 0.002 (gr. 1/30), and belladonna up to the poison limit. When only the rectum is involved, irrigate every day for a month with mild zinc-sulphate or zinc-chloride solution, or with infusion of linseed, and give no drugs by mouth. In the prolonged cases a dry, inland, elevated climate may be beneficial. Here the patients should be encouraged to live in the open air most of the time.

Simple Conjunctivitis.—Examine first, says De Schweinitz, for foreign bodies or misplaced cilia. In the earlier stages cold compresses are advantageous, later hot water is preferable. The eye should be frequently washed with water and Castile soap and boric acid, gram 0.7 to grams 30.0 of water (gr. x-℥ j) dropped in. When the discharge becomes mucous or mucopurulent, paint with solution of silver nitrate, gram 0.12-0.3 to grams 30.0 (gr. ij-v to ℥ j), and use stronger boric acid with sodium chloride added. In severe types wash eyes with bichloride of mercury, gram 0.045 to grams 500.0 (gr. ¾ to O j). Any thickening of the retrotarsal folds may be touched with alum or glycerite of tannin. Atropine is not necessary unless there is a corneal ulcer or other complications. Poultices should never be used. The eyes may be protected with smoked glasses.—*Diseases of the Eye.*

Calomel Injections.—In syphilis Fournier does not inject large quantities as was formerly the practice, but prefers a dose of gram 0.03-0.05 (gr. ½-5/6) injected every week or ten days from four to six times. He uses sublimed calomel, thoroughly porphyrized and washed with boiling alcohol. Of this gram 0.5 (gr. viij) is mixed with sterilized olive oil, grams 10.0 (℥ iiss), one c.c. (♏ xv) containing gram 0.05 (gr. 5/6) of calomel. If necessary one-fifth as much pure cocaine as calomel may be added. Fournier, having tried many forms of mercury and numerous vehicles, considers this the formula of choice. Calomel is more certain and more powerful than other mercurials, is less likely to cause stomatitis, gastro-intestinal symptoms and constitutional disturbance, and causes less local reaction. Moderate pain at the site of injection is not uncommon, but this is rarely severe.—*Revue de Thérapeutique.*

Black Draught.—In this, writes Lauder Brunton, there is one thing to cure by acting upon the intestinal secretion, another to help it by acting on peristalsis, another to make these act safely by lessening griping and flatus, and still another to make the compound more agreeable. The formula of the British Pharmacopœia is:

℞ Magnes. sulph.....120.0 (℥ iv)
Fl. ext. glycyrrhiz..... 30.0 (℥ j)
Tr. cardam. comp..... 45.0 (℥ iss)
Tinct. sennæ..... 75.0 (℥ iiss)
Infus. sennæ.....450.0 (℥ xv)

M. et sig.: One to one and a half ounces.—*Action of Medicines.*

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SMITH ELY JELLIFFE, A.M., M.D., Ph.D., Editor,
No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4 00
SINGLE COPIES	10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7 50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708, & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 8, 1900.

AN IMPROVEMENT IN THE MANAGEMENT OF THE NEW YORK CITY HOSPITALS.

THE first draft of the report of the revision of the Charter of the City of New York has a proposed Act on City Hospital Management of sufficient interest to the medical profession to excite considerable discussion.

The removal from the care of the Commissioners of Charities and Corrections of the management of Bellevue, the Fordham, the Gouverneur and the Harlem Hospitals and the placing of all control of these in a board of seven trustees, who shall serve without salary, is, we feel, a long stride toward certain ideals which never could be realized under the present state of administration.

To grasp the full benefit of such a proposed change and to be able to appreciate the scope for improvement that would be offered to these hospitals, one must combine a technical knowledge of the details of a hospital's management with a genuine desire for philanthropic work, and those who possess this knowledge read a special significance in the following clauses: "No member of the Board of Trustees shall receive any pecuniary compensation for his services, nor be interested, directly or indirectly, in the furnishing or performing of work, labor, services, materials or supplies of any kind, to, or for, said Hospitals by contract or otherwise," and, "No member of the aforesaid Board of Trustees shall hold any office of emolument under City, County, State or National government, except the office of notary public or commissioner of deeds or offices in the National Guard."

Our esteemed contemporary, *The New York Medical Journal*, in commenting on the proposed Act, professes much surprise at such a "radical," "incomprehensible," and "incongruous" change of policy in the management of this group of the city's hospitals, and hastens to assure its readers that if, by chance, they thought it was to be made in order to remove these hospitals from the sphere of "practical politics," the fact has not become generally known that they were suffering from any such cause.

There are more ways than one to account for facts not being generally known; but it is not the past management of these hospitals that is under discussion, but their possibilities under a liberal, untrammeled board of trustees of wisely selected unsalaried men, with perhaps one medical man among the seven.

Boston and Cincinnati are the only cities in the Union that have adopted this method of administration for their city hospitals, but the success of their experiment has justified the wisdom of the principles on which it was based.

In New York's problem the interest centers about Bellevue, for its efficient management means the best care that the city can give to the largest number of laboring men and women. The patients of Bellevue are not paupers but wage-earners, and the fact that they cannot pay for medical treatment should in no way make them feel that they are accepting an ignominious charity; and yet the working public do feel, whether justly or not, that to be taken to Bellevue Hospital is a stigma of pauperism. This is but popular prejudice and has nothing to do with the excellent medical treatment received at Bellevue, but is distinctly an outgrowth of the shifting political management of the hospital. To place it, therefore, under the same system of trustee management that is in force in private hospitals, and that has been so successful in the city hospitals of Boston and Cincinnati, will remove the feeling from the self-respecting. When Bellevue adds to its famed medical reputation the reputation of being one of the cleanest, best managed, and most honorably served hospitals in the city, it will become the people's pride as well as the physician's standby.

Those who are in argumentative mood inquire, with some logic, why only four hospitals should be selected for the change and why the other hospitals now controlled by the Department of Charities, should be omitted. The reason is one of expediency only and is the result of mature deliberation on the part of the Charter Revision Committee, who feared that failure might attend the change of system of the many city hospitals at once, but who were confident that the management of the four selected could be altered to the satisfaction of every one and that the change could ultimately be made for all.

With the change of management New York City, with the money, science and philanthropy that it has at command, can develop a type of modern municipal hospital that will equal any private hospital in the land.

The possibility of friction resulting from the half change is strongly urged by those who do not want any change at all. Practical difficulties certainly do exist, as the overflow of patients from the Bellevue group must be taken to the Island group and certain details of administration connected with the Charities Organization, such as the stabling of horses and the supply of drugs and power and heat which are connected with the Bellevue property. These details, however, are such that can be either harmoniously and justly attended to or can be used to rub up considerable friction, but the unsalaried board of trustees will not do much rubbing.

President Keller, the present Commissioner, has done all that any man could to improve the conditions of the hospitals in the Department of Public Charities; but the system and the inherited evils of administration have been too strong for him. His experience, however, will be of value to the new board of trustees of which he will be an ex-officio member, if the revision bill passes. It has been owing to his energy and effort that Bellevue has offered greater facilities than ever before to medical education by admitting to its bedside clinics the students of the University, Columbia, and Cornell Medical Schools.

It, therefore, strikes us as rather a bit of sentiment to quote President Keller as saying that he feared the proposed change might be designed to bring the hospitals more completely under the control of the leading institutions, and that, as they were intended primarily for the relief of the sick and only incidentally for educational purposes, the change was to be deplored. Any such generalized philanthropy must be made very sharp and clear. Hospitals are first, last and always for the sick, and Bellevue Hospital has always had the sickest of the sick in its wards, not only the worst cases but the greatest variety of them. This fact has attracted the best physicians and the best medical students to give their services as attendants and as internes to the institution, and in consequence it has had one of the best medical services to be had, and the hospital's fame and success have grown *in spite of the management*. The connection of the hospital with the University, Columbia, and Cornell Medical Schools has been its chief cause for congratulation. It is the energetic, eager interest of medical teachers that has given every patient the most thorough and careful handling and has kept the hospital from degenerating into a lazar house. It is, if the statement must be made openly, because, in addition to treating, so much more might be done than has been done for the comfort and consideration of the city's sick; so much more healing applied for the same amount of money expended; so much more freedom given to the doctors who are the mainstay and means of its existence to carry out the methods of treatment, that the revisers of the charter propose this radical change in the management of the specified hospitals.

SALT STARVATION IN THE TREATMENT OF EPILEPSY.

Common table salt was used by Hammond and Hamilton several years ago in the experimental treatment of epileptics with no apparent diminution of convulsions. It is a common experience that in the healthy classes, consumers of salt in large quantity are liable to be very irritable. This is especially marked in epileptics, as stated by Clark in a paper read at the Buffalo Academy of Medicine. He reports several epileptics at the Craig Colony, who, if unchecked, eat nearly two ounces of salt daily at meals in addition to the customary amount employed in preparing the dietary.

It will be remembered that Toulouse and Marchand last year ingeniously suggested that by reducing the salt in the epileptic diet the amount of bromides may be correspondingly materially decreased, the rationale being that bromine can substitute chlorine in the tissues. Animal experimentation proved that when dogs and cats

were fed on bromine and salt starved, the gastric juice contained bromhydric instead of chlorhydric acid. In the kidneys, brain and bone marrow, the proportion of bromine to chlorine found was two parts of the former to one of the latter. Bromine is not a foreign substance, but a true mineral constituent of the body. Thus it appears there is a good basis for the clinical fact that when an epileptic is under salt starvation, the bromides are more greedily absorbed in the tissues, and as it is the amount of bromides taken in the tissues, and the permanency with which such quantities can be induced to remain in the human economy, the value of Toulouse's method is obvious.

It is difficult to persuade epileptics to undergo voluntary deprivation of salt, and a semistarvation or a relapsing diet must be instituted. One of the best and easiest methods is the maintenance of epileptics on a milk diet. For a long time it has been known that a milk diet materially lessens the formation of toxalbumins in the intestinal tract, but, employed in conjunction with bromides, it has additional potency due to salt deprivation. Clark's dietary is a modification of that of Toulouse, and has the advantage over the latter in being much more palatable and easily cooked. It is as follows:

Breakfast: Milk, one pint.

Lunch: Two soft boiled eggs, farina, milk and sugar, coffee; or muffins made of eggs, farina, milk and sugar, and coffee.

Dinner: Bouillon unsalted or chicken-broth with a little rice; boiled beef unsalted or roast beef unsalted; potatoes.

Supper: Porridge made with farina, sugar, boiling milk; or milk and rice.

An occasional meal with the meat seasoned with a small definite amount of salt may be given, say sixty to eighty grams.

By this method the amount of bromide salt may be reduced by one half and the same therapeutic results may be obtained as before the method was instituted. Not one of the least of its virtues is the lessening by one half the chance of bromide poisoning. Toulouse cautions that in inaugurating the method the bromides should be decreased slowly. Patients should be watched closely in adjusting the balance between the decrease of sodium chloride and the substitution of the bromide salts. Toulouse prefers the sodium bromide, while Clark selects the tribromic mixture of ammonium, sodium and potassium. Nacke, Roux and Richet have all reported favorably in experiments of several months in long-standing cases of epilepsy. Its economy is obvious in epilepsy and other diseases where bromide sedation is needed over a long period of time. Sufficiently satisfactory results have now been reported for us to say that Toulouse's method is a real advance in our knowledge of the treatment of epilepsy by bromides, the chief sedative for this disease. It will be found especially of value where large dosage of bromides has not heretofore been possible because of the resultant toxicity, or in which high dosage has been inefficacious.

PURPURA RHEUMATICA SUCCEEDING ANGINA.

THE relation between rheumatism and anginal affections has been the theme of many writers both here and abroad. Their articles have called forth increased attention to the sequelæ of the ordinary throat affections, and in the *Berliner klinische Wochenschrift*, November 5, 1900, A. Brück gives us the results of his own observations in the matter.

Attention once directed more intently to the cause of the rheumatic affections, it became evident that many of them followed closely upon some slight or perhaps severe tonsillitis. The investigations showed that it was well within the range of probability that the portal for the entrance of the infecting organisms was the adenoid tissue of the tonsils. From this origin, they find their way by means of the blood-stream to the various localities to renew their pernicious activity. The presence of streptococci, staphylococci and even of the pneumococcus of Fraenkel in the tonsils, the blood and the joints, has been clearly demonstrated.

Following this reasoning, acute articular rheumatism would be nothing else than a rather mild form of pyemic inflammation. The attending complications, *i. e.*, endocarditis, hyperpyrexia, hemorrhagic skin affections, all go to prove the conclusion.

The reason that in every case of rheumatism we have not yet succeeded in finding an antecedent anginal affection may be ascribed to the similar condition of a lymphadenitis in which we fail to find the initial surface wound through which the germs found entrance. The little wound or abrasion may be long healed over and forgotten before the more serious metastasis is discovered. The reason for the attack by the

germs on the articulation rather than on other anatomical parts is perhaps found in the fact that they are the parts of least resistance, as they are also in the other acute infectious diseases such as diphtheria, tuberculosis, and gonorrhea. The skin affections coincident with rheumatic attacks, erythema nodosum, erythema exudatum multiforme, peliosis rheumatica, may likewise be said to be dependent upon micro-organisms for their production.

Brück says that their occurrence succeeding angina is not nearly so infrequent as has been stated by others. Who would think of examining the skin of the entire body in every case of sore throat in daily private practice? On the other hand, who would question a patient suffering from such skin affection as to whether he had had a previous sore throat? Even if the query were put, the angina may have been so mild that it escaped the patient's memory.

Brück chooses four cases from his practice which illustrate his theory. In every case there was either a well-marked petechial affection of the skin or some rheumatic trouble, or both, succeeding a tonsillitis lacunaris. The condition succumbed to the salicylates. In one patient the entire body, excepting face, neck and chest, was covered with petechiæ. In others, only the legs were covered with a mild petechial eruption. In all of the patients the beginning of the rheumatic symptoms followed so closely after the cessation of the throat symptoms that the causal relationship seemed to admit of no question whatever.

These latter were so unimportant in three cases as to awaken no anxiety whatever in the mind of the patient. The rheumatic conditions were muscular as well as articular in character, from which we glean the identical origin of the two. Cases which have been cited by Babes and Reher agree fully with the idea advanced by Brück.

The etiological dependence of angina lacunaris, acute muscular and articular rheumatism and the purpuric skin eruptions is thus satisfactorily dismissed by him as being absolutely proved. It might not be amiss to declare that in this category would belong otitis media. Black has shown this connection in publishing his cases. Gradenigo has done likewise. It would certainly be of value if more time was given to searching for such causes as above enumerated in all cases of rheumatic affections and their accompanying skin eruptions.

ECHOES AND NEWS.

NEW YORK.

Smallpox Situation.—Since last week's report in the MEDICAL NEWS 34 additional cases have been reported, thus making to date a total of nearly 40 cases.

Roentgen Society of United States.—The first regular meeting of this Society will take place in New York City, Grand Central Palace, December 13 and 14, 1900.

Bequests to Hospitals.—By the will of the late Mr. Robert G. Dun the following institutions are to receive $5000 each: The Presbyterian Hospital, St. Luke's Hospital, Mt. Sinai Hospital, and the New York Institution for the Instruction of Deaf and Dumb.

New Immigrant Station.—The Bureau of Immigration will be transferred from the present quarters to the new station on Ellis Island the 15th of this month. The transition from the cramped and badly arranged quarters which the bureau has occupied since the fire that destroyed the old station on the island in 1897 will be marked. One has only to remember the old ramshackle structure to be able to appreciate the magnificent and admirably arranged new quarters. Situated on one of the most prominent locations in the harbor, the new station is an imposing as well as a pleasing addition to the picturesque water-front of the metropolis.

Obituary.—Dr. R. B. Lincoln died last week of a peculiar type of intestinal obstruction, at first diagnosed as appendicitis. He was born April 17, 1841, in Benchertown, Mass. At the close of the war he took a three-years' course in medicine in Harvard, graduating in 1868. He served for a year as house surgeon in the Massachusetts General Hospital in Boston, after which he took up practice in this city. He was a member of the Loyal Legion, the New England Society, University, Amherst Alumni, Harvard Medical, and the Mendelssohn Glee Club, the American Medical Association, the New York Academy of Medicine, and the American Academy of Medicine.

Scarlet Fever on Long Island.—Scarlet fever is epidemic to such an extent in the village of Baldwins, L. I., that Thanksgiving festivities planned, including an entertainment in which many children were to take part at the Methodist Church, had to be postponed because of the malady.

Tuberculosis Hospital Plans.—The report of the Board of Trustees of the State Hospital for the Treatment of Incipient Pulmonary Tuberculosis was received November 30th, by Robert W. Hebbard, Secretary of the State Board of Charities. The report says:

"The Board of Trustees was appointed in May of this year, and from that time until the end of

September the members were engaged in inspecting the various sites in the Adirondacks which were offered to us or which we thought might be eligible. Twenty-six were examined and discussed. It became clearly apparent to us almost at once that it would be impossible to place the institution more than a mile from a railroad, as the amount of truckage necessary in the construction and maintenance of the hospital would be so great as greatly to injure the usefulness of the institution. This narrowed our choice very much. With the aid of the State Architect, a plan of requirements for the institution was made, which were fifteen in number, beginning, of course, with sufficient water supply. Next came the quality of the soil, the elevation, the sufficiency of the protection from the wind either by forest or hills, accessibility of the site from the nearest railway, etc. Several sites were visited three or four times. By the end of August the selection had narrowed itself to three or four sites, and at the end of September, at a meeting held in Albany, the trustees selected a site at the west end of Lake Clear, Franklin County.

"By the terms of Section 7 of the Act incorporating the institution such site is subject to the approval of the State Board of Health and the Forest Preserve Board. The Secretary of the Board of Trustees of the State Hospital notified these two boards of the approval of our selection of the site. The Forest Preserve Board visited the site, as did also Dr. Daniel Lewis, the President of the Board of Health. A public hearing was had on October 11th by these boards of approval, but no decision has been rendered. This is all the report that we can make as to the affairs and conditions of the hospital. The appropriation this year granted to us by the Legislature under the act of incorporation was $50,000. The only expenses of the institution so far have been the traveling and other expenses of the trustees.

"We hope that the site may be purchased at from $10,000 to $12,000. More or less of the appropriation will be expended this autumn in maintaining roads, clearing the ground, preparing reconnaissance surveys, and making preliminary excavations, but certainly some part of our appropriation will remain unused. As to the amount required by us for operating expenses next year, it may be said that there is so little probability of the hospital being ready for the reception of patients before next autumn at the earliest, that we need only ask for a small amount, and this amount is rather in the nature of a precaution. But we think the sum of $21,600 should be set aside as a precaution for the maintenance of a hospital during the months of October, November, and December, in case it shall be ready for patients at that time.

"In regard to the amount to be appropriated for the construction of the hospital by the next Legislature, we are of the opinion that a hospital cannot be built and equipped under $200,000, and we may add that our opinion is formed from information given to us lately by the State Architect. The preliminary plans are now being prepared by him. It is our purpose to submit copies of these plans to a number of prominent men of America and Europe for their criticism and suggestions, so that when they are laid before you they will present the result of the best medical judgment that we can obtain."

Dr. Noyes and the New York Eye and Ear Infirmary.—Dr. Henry D. Noyes was a graduate of the College of Physicians and Surgeons in the year 1855. After serving on the house staff of the New York Hospital, he went to Europe to continue his studies. Devoting himself to special work in the ophthalmic clinics there and latterly a student of Von Graefe in Berlin, he returned to America and in September, 1859, was appointed assistant surgeon to this Infirmary. In November, 1864, he was made surgeon. From 1873 until 1898 he served as executive surgeon and on October 23, 1900, his resignation as a member of the surgical staff was received by the Board of Directors—by the Board at whose councils he had sat for a period of thirty-six years. This long service of one, who during nearly the entire time held foremost position in conducting the affairs of the Institution, covers more than half the period that has elapsed since the foundation of the Infirmary. These years have seen marked changes in the growth of the Institution and a brief reference to the statistics, furnished by our Annual Reports, may not be out of place. In the year 1859 there were 4176 new dispensary patients and 144 in the wards. In 1899 there were 47,684 new dispensary and 2257 house patients. In 1859 the surgical staff consisted of 9 men. Now 83 medical men are engaged in the work. In 1859 it was an Eye Infirmary. Now there are the three departments of the Eye, Ear and Throat. The well-ordered Hospital of to-day, with its superintendent and clerks, its isolated cataract wards and pavilion for contagious ophthalmia, its training school for nurses, school for instruction for graduates of medicine, its annual volume of scientific transactions, its valuable medical library, owes in no small way its preeminence to the wise forethought and ceaseless activity of Dr. Noyes.

The Rules and Regulations of the Infirmary were largely the result of his careful study, and it was perhaps characteristic of his unselfish devotion to the Institution that, shortly before his resignation of the position of executive surgeon, he prepared rules that gave this office largely increased powers and left the enjoyment of them to his successor.

Bringing as he did to the discharge of his professional duties a vast knowledge of medicine, a facility and originality in operative procedure, he was unsparing of self in his devotion to those who came under his care. He was

prompt in recognizing the value of suggestions made by others in his field of work, and his distinguished position as an author and teacher added to the fame of the Institution both at home and abroad. Throughout the years of his connection with the Infirmary Dr. Noyes contended for an increase in our scientific and laboratory work. He urged that there could be no effective and perfectly developed charity that is not associated with scientific investigation.

Dr. Noyes died on the 12th of November, 1900. It is fitting that the medical staff of this Institution, to the service of which he had devoted all the years of his active professional life, should record their appreciation of the work of a man who has contributed so largely to make the Infirmary what it is. It is proper that at this time, feeling the irreparable loss they have sustained in his death, they should, in the spirit in which he lived, dedicate themselves anew to a service, not alone as ministers to humanity, but also as ministers to knowledge in medicine.

The Alcohol Question.—A meeting of the New York State Medical Alliance will be held at the New York Academy of Medicine, 17 West 43d Street, Thursday, December 13th, at 8 P. M. Dr. Winfield S. Hall, A.M., M.D., Ph.D., (Leipzig), Professor of Physiology in the Northwestern University Medical School, Chicago, will read a paper on "Ethyl Alcohol; Its Biology and Its Relation to Physiology, to Pharmacology, and to Therapeutics." Discussion of the paper is expected by Professor Conn of Wesleyan University; Professor C. A. Herter of the University and Bellevue Medical School; Professor Woodbury of the Philadelphia Polyclinic and College for Graduates, formerly Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia, and by others. Dr. Andrew H. Smith, President of the Alliance, will preside. The medical profession is cordially invited.

PHILADELPHIA.

Resignation of Dr. Lloyd.—Dr. J. Hendrie Lloyd has resigned his position as neurologist to the Philadelphia Hospital.

German Hospital Donation Day.—On Thanksgiving Day the German Hospital received over $8000 in cash. In addition to this the firm of C. F. Rumpp & Sons contributed $5000 to endow a free bed for the benefit of their employes.

Physician for Department Store.—Gimbel Brothers have recently installed a woman physician in their department store. Female employes are treated at her office in the store, a purely nominal charge being made for the services rendered.

"Ostrich Man" Visits the City.—Harry Harrison, of Syracuse, N. Y., gave his annual exhibition of swallowing pieces of glass, nails, tacks, broken knifeblades, etc., at the Medico-Chirurgical Hospital last week. He seems none the worse from the operation which he underwent in Baltimore last year.

Disinfecting Barges Sent to Cuban Ports.—Two disinfecting barges, which were converted from schooners by the Kensington Engine Co., have been sent for service at Matanzas and Cienfuegos, Cuba. Neither is self-propelling. They contain full apparatus for the handling of formaldehyde, sulphur dioxide, etc. Another barge for quarantine work in Porto Rico is now under course of construction here.

New Trick of Sneak Thief.—A prominent physician of the city recently had a well-dressed caller who waived his priority of examination in favor of a second caller who was in a hurry. The latter left his hat, gloves, silk umbrella, and eye-glasses in the outer waiting-room. When he came from the consulting-room these articles, as well as the polite stranger, were missing. A description of the man has been given to the police in the hope of preventing a repetition of the act.

Osteopaths Desire Special Laws.—A bill to regulate the practice of osteopathy in Pennsylvania will be introduced by osteopathists at the next session of the Legislature. At a meeting of their State Society in Harrisburg last week it was stated that they would not antagonize any system of treating disease. The plea that osteopaths should come under the jurisdiction of the present State Medical Boards they consider to be a plea for protection of medical trusts. Efforts are, therefore, to be made to secure the appointment of a board of osteopathic examiners who are specialists in anatomy and who are conversant with the osteopathic system of treatment.

Report of State Factory Inspector.—State Factory Inspector Campbell has issued his report for the year ending October 31st. In the main the results of the year's work are satisfactory. The bake-shop law has greatly improved the sanitary condition of the shops, many of the poorer ones having been abandoned, but as a result home workers are rapidly increasing. This increase of home workers has a tendency to reduce wages and spread disease. Through the aid of the Boards of Health in Philadelphia and Pittsburg a large amount of clothing made in homes where contagious diseases existed has been located and destroyed. The cooperation of these two departments is of the greatest importance. Inspector Campbell recommends the appointment of ten additional inspectors and the establishment of suboffices of the department in Philadelphia and Pittsburg.

Pay for School Physicians Urged.—The Committee of Medical Inspection of the Public Education Association has adopted a resolution recommending that the medical inspectors of schools

be paid a salary of $500 each for their services during the school year, from September to May, inclusive. This, it is believed, would insure uniform work and a definite and responsible organization. The Committee suggests that the corps of visiting physicians consists of 200. The inspectors held a meeting Saturday to consider a constitution for their proposed association. It was only partially adopted.

Extensive Operation on Neck.—Dr. W. J. Hearn reported an instructive case at the Academy of Surgery Monday evening. The patient was a physician, the operation being one for secondary lymphosarcoma of the neck. A portion of the internal jugular vein was excised, the pneumogastric, phrenic, and sympathetic nerves were divided, and a portion of the thoracic duct removed. No immediate ill effects followed the division of these important structures, and speech was preserved. A fistula through which the chyle escaped was present for some time, but this finally healed. The patient died some time afterward from a return of the growth and chronic sepsis.

Operative Treatment for Cirrhosis of the Liver—Dr. Chas. H. Frazier reports a case operated upon nearly five months ago at the University Hospital which shows very satisfactory results. Diuretics and tappings had produced no effects. The abdomen was opened, the peritoneum at each side of the wound rubbed with gauze to produce irritation and the omentum sutured to the parietal layer. The wound was closed without drainage. The patient was tapped on the thirteenth day after the operation and a second time on the thirty-sixth day, since which time no accumulation of fluid has taken place. No other treatment was instituted except necessary laxatives. There seems to be no doubt of the success of the operation in this case. Dr. Frazier believes that suprapubic drainage after such operation is an unnecessary risk of infection and advises against its use. The abdomen should be closed and tapping resorted to while venous channels are forming in the adhesions. The operation should be done under local anesthesia if possible, as such subjects bear ether narcosis very badly.

County Medical Society; Treatment of Gonorrhea; Cystoscopy in Women.—At the meeting of November 28th Dr. Edward Martin detailed the treatment for gonorrhea which he has adopted after a thorough trial of various methods. The most important part is local treatment. Hand injections of protargol or other silver preparation are begun at once when the case is seen. A few drops are let fall between the separated lips of the meatus to reach the parts which the nozzle of the syringe passes by. The anterior urethra is then filled and the solution retained for three minutes. This is done every two hours, the silver solution being gradually weakened after a day or two. Irrigations of potassium permanganate, 1-6000, are used night and morning. This is gradually strengthened up to 1-3000 and after six or eight days used only at night. Auto-irrigation is taught in most cases. Internal treatment consists in making the urine bland. Lithia tablets are given six times a day with a glass of water each time. Salol is given in five-grain doses four times a day. The diet is largely determined by what agrees with the patient, pastry and such articles being of course forbidden. Moderate exercise is allowed and a prolonged hot bath given every night. Under this treatment 25 per cent. of the cases are cured in from six to eight days. Others take twelve to fifteen days and a certain percentage takes longer, as they do under any treatment which may be instituted. Chordee, painful urination, etc., almost never occur. If gonococci are found after fourteen to sixteen days, treatment is again instituted with the addition of an astringent injection. The silver injection should be used, as long as gonococci persist. When the discharge lasts for six to eight weeks the urethra should be explored for the cause, milking the follicles from behind forward by means of a dilating instrument, posterior irrigations, and massage of the prostate may be indicated.

Dr. John G. Clark discussed the subject of cystoscopy in women. He advises the use of the Nitze cystoscope first in cases demanding exploration of the bladder. It is the best instrument for office work and for preliminary examination under any circumstances. Its use is less annoying to the patient and for this reason her cooperation in subsequent procedures is more likely to be secured. This instrument is valuable in locating points of disease and affections of the bladder generally occupy only a small area. This is true even of cystitis in which the trigonum is usually the only part involved. By systematic rotation of the instrument the whole interior of the bladder may be gone over. When the portion of the bladder at fault is determined the Kelly apparatus is used for any further work that may be necessary. Dr. Clark has noticed that operators, especially those abroad, who have trouble with the Kelly apparatus do not place the patient in the proper position. The shoulders and chest are not kept flat upon the table and in some instances the abdomen was supported instead of being kept free to allow ballooning of the bladder.

CHICAGO.

Warden of Cook County Hospital.—There is considerable opposition being manifested against the reelection of James H. Graham as Warden of this Hospital. The medical profession is almost a unit in favor of placing a physician in the position of Warden rather than to reelect a layman.

Resignation of Dr. Stehman.—Dr. Henry B. Stehman has resigned the position of medical

superintendent of the Presbyterian Hospital, after serving for fifteen years in that capacity. A successor will be chosen before January 1, 1901.

Transfer of College of Physicians and Surgeons.—The terms of the contract under which the College of Physicians and Surgeons, which is now affiliated with the University of Illinois, will become ultimately the property of the University have been made public. The arrangement is one by which in the course of a number of years, estimated at from twenty to thirty, the University will be able to pay for the College out of a fund accumulated from a certain portion of the profits to be set aside each year. According to Dr. Quine, the University of Illinois assumes no financial responsibility in the transaction. The College is the property of a stock company, which owns a large site of land and several buildings on the west side. For the rent of these the University agrees to pay $12,000 a year out of the gross receipts to the directors of the College. Then, after paying the expenses of operation, two-thirds of what is left will be used to pay professors' salaries, and the balance of the receipts will be invested by the University in the purchase price fund. When this fund reaches $217,000 it is to be paid over to the directors of the school, and title will pass.

Resignation of Dr. Christopher.—Dr. W. S. Christopher resigned from the Board of Education, after having served since 1898. He introduced a system of child-study and a system of medical inspection in the schools. The ergograph, measuring the mental qualities of pupils, was also adopted at his suggestion.

Donation by Dr. Fenger.—Dr. Christian Fenger recently donated to the library of Rush Medical College a collection of books which represents the German surgical literature of the last fifty years. There are about five hundred volumes in all.

Seek to Close Opium Dens.—Failure of the Chicago police to do their duty and close all opium dens in the city has led to the filing of sixty-eight cases, alleging violation of the pharmacy law, by the State Board of Pharmacy. Six cases were dismissed in Justice Hall's court because the board's attorney believed it impossible to secure a conviction with the Clark Street juries summoned by the constables.

Physicians' Club.—At a meeting, held November 25th, the subject of the physician as a writer of medical literature was discussed. Dr. G. Frank Lydston spoke on the topic "Should the Physician Write?" He answered the question in the affirmative, saying that persistent writing enables the physician to acquire a knowledge of medicine and surgery which could not be obtained in any other manner. As models of literary style he mentioned the writings of Van Buren and Fothergill. Dr. George H. Simmons pointed out the common faults of the writings of medical authors. Most physicians write too long papers. They should be short, so that editors would be able to present their readers with greater variety of topics. Long articles are only read by about one per cent. of the readers. Many papers bristle with unnecessary details. Meaningless titles were dwelt upon and examples given, as, for instance, "interesting report of surgical cases," "a few surgical problems," etc. He urged the use of central and side headlines to guide the reader. Probably three-fourths of all papers prepared for reading before medical societies are written to satisfy the Secretary. They are, therefore, prepared hurriedly and the subjects are not well thought out. Faults in case-reporting were dwelt upon and illustrations given. Dr. Henry F. Lewis spoke of the medical writer from the standpoint of the reader. The busy practitioner can only read a few medical journals and these should be the best. The medical writer speaks too frequently with an authority that is not his own. There is too much compilation and not enough of the experience and observations of authors embodied in articles. Too much space is devoted to what this and that man have said regarding a certain subject. This is unnecessary, as those interested can look up the literature themselves. Articles are not sufficiently concise. Greater condensation is necessary. The average writer consumes too much time and space with prefatory observations, or long, verbose introductories. Brevity, without vagueness, is desired. Subjects should be well divided; there should be a liberal use of central and side headlines, so that the reader can skip paragraphs here and there, if necessary. Dr. George F. Butler spoke on how to write well. A prerequisite to writing well is to think well. He cited a few instances of eminent authors with the definite purpose of showing that association with great minds, through a diligent perusal of their work, will be found the surest means of acquiring the art of logical, refined, and cultivated expression. Newspaper editorials are fully equal in style to the best magazine literature, particularly those written for the great dailies, in that they were examples of concise, logical, reasoning, combined with discriminating observation of the leading events of the day.

New State Sanitarium.—A State sanitarium for consumptives will be one of the recommendations made by the State Board of Health in its forthcoming biennial report. The Board also will join with the State Board of Charities in favoring a provision for the especial care of epileptics. The Health Board will ask that the powers of township boards be extended so that they will have the power to punish persons violating rules tending to check the spread of contagious diseases. It will also recommend legislation providing for boards of health in counties not under township organization, where the State

Board now exercises local jurisdiction. An examination for funeral directors, embalmers, and undertakers will be held by the State Board in Chicago on December 19th. An examination for physicians, midwives, and other practitioners will be held in Chicago on January 9, 10 and 11, 1901.

Cook County Hospital.—The *Chicago Tribune* comments as follows on the county hospital situation: "Perhaps sufficient evidence has not been submitted to the public to convince everybody that the administration of the County Hospital has been inefficient and unworthy during recent years. There is, however, a general impression, which is only too well justified, that the hospital has been run as a political rather than as a charitable institution and that the public service will be promoted by a refusal to reappoint the present warden. This being the case, the new President of the County Board, who has the appointing of the warden and the heads of other important county institutions, should perform the duty of making these appointments with care and circumspection. He should not appoint men who are pressed on him by politicians, through whom they hope to get control of the county institutions. He should select men of character, experience, and independence, who will administer the affairs of the hospital, for instance, in such a manner that the patients may be well cared for, while the funds of the county are not squandered. The man who will fill the hospital, the insane asylum, or the poorhouse with political bummers and favorites, who assists in putting through contracts of a dubious nature, or who accepts supplies when they are not what the contracts call for as to quantity or quality, is not the kind of man the taxpayers want or the President of the County Board should appoint. There should be at the head of such an institution as the County Hospital a man possessing absolute integrity and also sufficient intelligence to insure honesty in subordinates. He should make it his special duty to see that the patients get their rights, that the medical and nursing staffs are efficient in all respects, and that the business affairs of the hospital are managed as economically and carefully as are those of a commercial establishment, thus safeguarding the interests of the taxpayers. If the President of the County Board will take his time he can discover such a man—a man who will be the catspaw of no politician, and in whom the citizens of Cook County will have perfect confidence."

GENERAL.

St. Louis Medical Society.—At the last meeting, held December 1st, Dr. Hugo Summa read a paper on "The Floating Tenth Rib and Its Diagnostic Value."

Western Surgical and Gynecological Association.—The next annual meeting of this Association will be held at Minneapolis, Minn., December 27 and 28, 1900. An invitation is extended to surgeons and gynecologists of the Great West to attend this meeting and take part in its deliberations. As the meeting is to be held during the Christmas holidays those engaged in teaching in the medical schools will be able to attend without interfering with their college duties. The preliminary program suggests an interesting and full meeting.

Training School for Nurses, Freedmen's Hospital.—The United States Civil Service Commission invites attention to newspaper announcement issued November 23d for an examination for the position of Superintendent and Head Nurse, to be held December 19-20, 1900, and calls attention to the fact that the Department desires that preference in certification be given to unmarried women between twenty-five and fifty years of age, instead of between twenty and twenty-five years of age.

Cheyenne's Water Tainted.—Cheyenne, Wyoming, has had an epidemic of typhoid fever for several weeks, and the citizens have been at work to locate the cause. A report shows that the water supply of the city is contaminated with typhoid bacteria. In one instance no less than four masses of refuse were located near the filter-bed, and one of them directly over it.

Honor to Dr. Halsted.—Dr. W. S. Halsted, Yale, '74, of Johns Hopkins University, and formerly of New York City, has been elected as honorary fellow of the Royal College of Surgeons, London.

Smallpox in a Michigan City.—According to Secretary Baker of the State Board of Health, who was called to Winona to investigate the epidemic in that city, the disease is evidently smallpox of a mild character and the mortality about 2 per cent. It is said that there are over three hundred cases, mostly in the Fourth Ward, which is largely a Polish settlement.

Faith Curists Held for Murder.—Elder Eugene Brooks of the branch of the Dowie Zionites of Victoria, B. C., and W. W. Maltby, a disciple, were arrested last week in that city at the close of an inquest held regarding the death of Maltby's three-year-old child from diphtheria. The two are charged with murder.

Yale Medical School.—The plans for extension of the Medical School and its transfer to Cedar Street opposite the New Haven Hospital, where all the needed front has just been acquired, are now being actively pushed. If present hopes are realized, a few years more will find the school in its new quarters and rapidly regaining the importance which it had in the early part of the century. The first step will be the removal of the dispensary to Cedar Street.

Entrance to Medical School Raised.—At the monthly meeting of the Board of Regents of the University of Michigan it was decided to

raise the requirement for entrance to the medical department; that practically a two-year course in the literary department will be required for admission. Heretofore the same grade of entrance examinations has prevailed for both departments, and, as a consequence, a number of inadequately prepared students have slipped in who later have made a failure of their work in the school of medicine.

Cancer in London.—London medical science is being directed toward the elucidation of the problem of the causation of cancer. A cancer research laboratory has just been opened at the Middlesex Hospital, to be entirely devoted to the systematic investigation of cancer. The Middlesex Hospital is alone among the great London hospitals in admitting inoperable cases of disease, where the only hope is that death may come without much more pain. Some sixty of these hopeless cases will be now under close scientific scrutiny.

Michigan Smallpox Grave.—The smallpox situation in the upper peninsula is quite serious, in view of the fact that lumbermen ill with the disease come into the city hospitals laboring under the impression that they have some trifling ailment. Most of the outbreaks have resulted from such cases, many persons being exposed on railroad trains and in other public places.

Woman's Medical Club.—A Woman's Medical Club has recently been formed in suburban New Jersey, which limits its membership to women who are regular physicians, the qualifying adjective being strictly adhered to. The object of the club is mutual helpfulness, and the discussion of medical questions, as well as the promotion of sociability among women physicians throughout the State. Fifteen members were enrolled at the first meeting, including representatives from the Oranges and Newark, Jersey City, Montclair and Roselle. The officers are: President, Dr. Katherine Porter, Orange; Recording Secretary, Dr. Mary D. Hussey; Corresponding Secretary, Dr. Isabel M. Geddes of Newark; Treasurer, Dr. Augusta M. Madison.

Pan-American Medical Congress.—The "Morro Castle" will leave New York December 22d and will be back in ten days, three days down, four days in Havana, and two days back; price of the trip $60. The hotels in Havana are as follows: Telegrafo, Mascotte, Ingleterra, Pasje, and Roma; rates from three to five dollars a day, everything included. Trip from New York and return, including passage, hotel, meals and all, $80. As regards the reports that yellow fever is prevalent in Havana, the following communication to the *New York Times* from Dr. Juan Santos Fernandez, President of the Congress, may be of interest: "It is very necessary for the success of the third Pan-American Medical Congress, which is to be in session in Havana, Cuba, the 26th, 27th, 28th, and 29th of December, 1900, that the physicians of the United States should be informed that yellow fever disappears or is very rare in this city at that season, and that already the number of cases have greatly diminished, therefore there is no occasion for fear on their part in coming to Cuba in the latter part of December."

Arsenic Poisoning in Manchester.—The situation at Manchester seems more grave than last week's report in the MEDICAL NEWS would indicate. The victims of arsenic poison in beer now number more than sixty dead and more than one thousand ill. The area affected is confined within a hundred-mile radius from Manchester, but the panic among beer-drinkers has spread almost throughout the whole country. It has been completely established that the cause of the poisoning is arsenic in the sulphuric acid used in the manufacture of glucose or sugar which the English brewers employ in place of malt and hops in making cheap beer. The poison has thus far been traced to only one establishment which supplied sugar for several breweries in the Midlands and the north. The commercial sulphuric acid in this country is made from pyrites, almost all of which come from Spain. There is always a trace of arsenic in it. The offending firm argues that there must have been an undue proportion of the poison in the lode from which their supply came. At all events, an analysis shows that some beers sold in saloons this week contain arsenic sufficient to kill any persistent drinker. As a result of the warning of the authorities hundreds of thousands of gallons of beer have been poured into the sewers of Liverpool and Manchester by brewers and retailers. The scare has caused a strong revival of the agitation in favor of the compulsory use of malt and hops instead of cheaper substitutes. A Government inquiry will probably be ordered and it is likely that the subject will secure the attention of Parliament.

In the Learned Professions.— The Bureau of Statistics of Labor of Massachusetts issued December 1st an analysis regarding the learned professions in Massachusetts, the like of which has never been published before. The figures are those of the last State census of 1895, but they are doubtless about equally applicable to to-day. The classification under the head of religion includes such persons in the service of religion as sextons, superintendents of cemeteries, secretaries of religious societies, and others not strictly clerical. The legal profession is stretched to include not only lawyers, but clerks and officers of courts, justices, conveyancers, notaries, and solicitors. Under the head of medicine are included physicians and surgeons of the different schools, chiropodists, clairvoyant medical practitioners, dentists, manicures, and midwives. Including these, there are in the service of religion 4597 persons in the State, 2781 engaged in the legal profession, and 5800 in the practice of medicine. Dividing the total population by these figures, it appears that there is one religious

worker for every 544 persons in the State, one legal light for every 899 persons, and one medical practitioner for every 431.

There is a great difference between different localities regarding the proportion of these persons. Suffolk County, which includes Boston, Chelsea, Revere, and Winthrop, but consists largely of Boston, has 1245 in the service of religion, 909 in the service of law, and 1886 in the service of medicine. This is all out of proportion to the remainder of the State, showing how professional people crowd to the large centers. In Suffolk there is an average of one person in religious service for every 434 persons, one in law to every 594 persons, and one in medicine for every 286 persons. This shows that there must be a remarkable excess of doctors in Boston, for the proportion nearest to this is 377 in Nantucket County, and next is 431 in Hampden. In Boston alone there is one religious service to every 415 of population, one to 576 in law, and one to 278 in medicine.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, November 28, 1900.

THE STRUGGLE BETWEEN THE STAFF AND BOARD AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—THE HOSPITALS COMMISSION—CLOSE OF THE INQUIRY—EVIDENCE OF MRS. RICHARD CHAMBERLAIN—SIR MICHAEL FOSTER ON MEDICAL EDUCATION—DEFECTS OF THE GREAT LONDON HOSPITALS—WANT OF LABORATORY FACILITIES FOR THE INVESTIGATION OF DISEASE—HEALTH OF KIMBERLEY DURING THE SIEGE—TOBACCO IN WARFARE.

THE controversy between the staff and the board or rather the secretary-director (for the board appears to be a one-man power) of the National Hospital for the Paralyzed and Epileptic still continues to be waged hotly in the columns of the *Times*. The board has passed a resolution that "In view of the publications in the press injurious to the interests of the hospital an inquiry should be held into the charges formulated by the staff against the domestic condition and management of the hospital and that some independent legal authority be requested to conduct such inquiry." The staff point out that possibly it is the board's intention to limit the inquiry to domestic matters, while their demand was for an inquiry into the constitution and management of the hospital. If the board intends to so limit the inquiry the staff will decline to be party to it. The domestic condition of the hospital is only a part of their charges. They further point out that the board being one party in the dispute are scarcely in the position to nominate their own tribunal, that the constitution of the hospital is so faulty that the staff while giving gratuitous services is disfranchised, that a paid official whose position in similar institutions is a subordinate one has gradually been allowed to assume an anomalous position, and that by his interposition as middleman between the board and staff harmonious and useful cooperation between these two bodies has become impossible. The staff, therefore, seeks direct representation on the board as the only means of arriving at a better understanding with them. In spite of the lengthy correspondence on the subject no proper reasons have ever been given why the demand for two seats by the staff on a board of twelve has been refused. The following are the reasons assigned: "The staff being officers and servants of the hospital should not be included in the governing body. They are charged with duties and questions relating to their discharge may arise. The independence of the board would disappear in the company of members of the staff. The claims of mere suffering would be overlooked and preference given to 'cases'. Though the members of the staff would only number two they would always speak with the whole force of their own medical committee and by threatening hostilities could always enforce their views." In a medical journal there is no need to reply to these silly arguments. The most weighty document which has appeared on this question is a letter in the *Times* signed by Lord Lister and the senior surgeons and physicians of all the hospitals in London having more than 100 beds, and by other medical leaders. It urges the governors to put an end to the controversy by granting the representation asked for which can only strengthen the board of management in wisely carrying out the great charitable work entrusted to it.

The Hospitals Commission which has returned from South Africa has held its last sitting in London. The only witness examined was Mrs. Richard Chamberlain, sister-in-law of the Colonial Secretary. She said that she had visited several hospitals, but considered herself an authority on only one, No. 1 Hospital at Wynberg, Cape Town. She was politely told on three occasions that no visitors were allowed. She ultimately got an order to visit from General Walker. Permission was given for three days a week, but she went every day. The whole place was in a horrible muddle. There was no organization and though money and stores were unlimited the place did not look like it. Proper convoys were not provided to bring patients from the station to the hospital. The typhoid were not separated from the surgical cases. Everything was short—splints and every necessary utensil from cups and saucers to bedpans. There were not sufficient air-cushions, air-beds, or hot-water bottles. Nurses were deficient although Cape Town was full of them. The patients were

dirty because there was not sufficient warm water to keep them clean. The military huts were swarming with vermin. The orderlies take the sheets of typhoid patients, wash them in cold water, dry them, and use them again without disinfection.

Sir Michael Foster, M.P., Professor of Physiology in the University of Cambridge, distributed the prizes to the students of St. George's Hospital Medical School and delivered an address on Medical Education. He said that he was oppressed by the thought that the opportunities offered by the great hospitals for the advance of medical knowledge were not adequately laid hold of. Complaints were made by the public that hospitals were used for "experiments." But this was mere kicking against the pricks. Whenever a patient placed himself in the hands of a physician his case became the subject of investigation. Every touch of the surgeon and every counsel of the physician was necessarily an experiment, for the result was never absolutely certain and the practitioner was always prepared to profit by the teaching of that result. These two characters were the essence of a scientific experiment. He complained that in our great hospitals the teachings of those multitudinous experiments were not laid hold of as completely and as fully as they might be. The analysis of the phenomena at the bedside and in the post-mortem room was not carried out as exactly, as completely, as fully and as systematically as it might be. In none of our great hospitals was the chemical, physical and bacteriological analysis of cases as complete as it should be. In the great metropolis of London the hospitals were not so well equipped for these purposes as in America and on the Continent or even in the English provinces.

The annual report of the Medical Officer of Health of Kimberley for 1899 is an interesting document. The report says that the chief feature which influenced the health of the town during the year was the state of war of the last two and a half months. The siege continued until the middle of February of the present year. For the part of the division of Kimberley which was in the enemy's hands the medical officer is unable to give statistics. But he states that among the enemy encamped at Magersfontein and at the various stations and trenches round Kimberley there is abundant evidence that enteric fever was very prevalent. During the few weeks preceding the siege there was an abundant influx of refugees from Johannesburg and elsewhere causing crowding in the dwellings. The exigencies of war and the restrictions under which the besieged were placed caused a marked increase in the death-rate. During the first nine months of the year the health of the town was good and compares favorably with other years and with other towns in the colony. The population was 163,000 whites and 23,200 colored. The death-rate for the first nine months was only 17 per 1000. But for the entire year it was 42.6, which shows the tremendous effect of the siege. It was amongst the young children who are most easily influenced by adverse circumstances and who therefore furnish a delicate index of public health that the death-rate was phenomenally high. For the year ending June 30, 1890, 348 colored infants per 1000 registered births and 304 Europeans died.

The war, says the *Lancet*, has taught many things. Perhaps nothing has been more demonstrated than the important part played by tobacco in the soldier's existence. The Duke of Wellington's armies had no tobacco worth speaking of. If they did not forbid it, the officers were directed to advise their men strongly against its use. This curiously contrasts with the campaigning in South Africa where marches and privations as long and as stern as any suffered by our great-grandfathers were borne with a grumble only when the "smokes" failed the men. No doubt tobacco is a real help to men enduring long labors and receiving little food. It probably acts by quieting cerebration and allowing sleep more easily. Its value seems to be second only to food when long privations and exertions have to be endured.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

ILEOSIGMOIDOSTOMY AND LATERAL ENTERO-ENTEROSTOMY FOR CANCER—URETERAL CATHETERISM FOR TUBERCULOSIS—DIFFUSE TRAUMATIC POSTERIOR TIBIAL ANEURISM—ENTERITIS AND ENVIRONMENT—PNEUMOCOCCI AND SORE THROAT—SCARLATINOUS SORE THROAT—PNEUMOCOCCUS OTITIS MEDIA—AMYOTROPHY OF THE NECK IN PULMONARY TUBERCULOSIS—SIMPLE ACHOLURIC JAUNDICE—DIAGNOSIS OF TUBERCULOUS MENINGITIS—SPLENIC DEGENERATION IN TUBERCULOSIS—JAUNDICE AND THE CEREBROSPINAL FLUID—PERMEABILITY OF THE MENINGES IN THEIR TUBERCULOUS INFLAMMATIONS—EFFECT OF COCAINE ON CIRCULATION IN LUMBAR INJECTION.

Tuffier at the Société de Chirurgie de Paris, October 17, 1900, presented in behalf of Charriers (Angers) notes on a case of colic carcinoma of the hepatic flexure with marked and progressive signs of intestinal obstruction and with adhesions preventing anastomosis between the proximal ascending and the distal transverse colon. An artificial anus was not desirable. Therefore ileosigmoidostomy was done. After a few weeks' trouble with fluid stools, the patient made a good recovery. .

Quenu stated that he had done this anastomosis even in patients much emaciated, with entirely good results; no appreciable increase in the failure of nutrition could be attributed to

cutting out most of the colic digestion. His conviction is that this operation is far preferable to an artificial anus, whenever it may be done.

HARTMANN, at the session of October 24th, resumed the same subject and limited the term *exclusion of the intestine* to cases in which one or both ends of the portion excluded are closed. Thus the exclusion will be closed or open according as there is or is not an artificial anus formed. For his part he considers this latter form of exclusion should not be carried out when it is possible to do a lateral entero-enterostomy. Another crucial point is the selection of the loops for the anastomosis. In general terms the union should be made with the least possible sacrifice of intestinal function. On the other hand, care must be taken not to place the anastomosis too near the cancer. In his own experience the neoplasm had invaded his union. Often the results of this operation are so marvelous that one may be led to doubt the original diagnosis. In one case of his four months after such an apparently absolute cure, the patient succumbed to a general dissemination of the disease.

ALBARRAN, on October 31st, exhibited a kidney removed from a twenty-year-old youth, interesting solely from the early and accurate diagnosis made. The only symptoms were slight lumbar pain and some frequency of micturition. Cystoscopy was entirely negative. Ureteral catheterism showed clear urine from the right side with eighteen grams of urea to the liter, while twelve grams of slightly purulent urine was recovered from the left side. Nephrotomy at the exploration was negative, but on account of the straightforward diagnosis nephrectomy was done, after which a focus at the inferior pole of the organ was found. In the urine from the left kidney were bodies staining with Ziel's solution and probably tubercle bacilli.

CHAPUT reported a case of diffuse traumatic posterior tibial aneurism, in two large sacs, upper and lower, spontaneous clotting had occurred so that only the proximal opening of the vessel into the aneurism was ligated. Silk was used. Probably it would have been far more prudent to have ligated the distal mouth also.

RENDU, at the Société Médicale des Hopitaux, October 19th, introduced a youth recovered from a biliary fever with hemoglobinuria. A year ago in Madagascar he contracted malaria which progressed so steadily that his return to France was advised. Since then, during the month preceding admission, he showed tertian fever and on reaching the hospital was suddenly attacked with a severe exacerbation of fever and, two days later, by another attack less intense, but accompanied by nausea, vomiting and bloody urine. This hematuria persisted all night and was followed by a jaundice even of the mucosæ, with prostration and almost collapse. Chlorhydrate of quinine hypodermically and quinquina powder by mouth were continued and shortly convalescence ensued. The other features were that the urine contained no blood-corpuscles, but only hemoglobin. Its deposits consisted solely of urobiline and chromogen, but no bile-pigment. Evidently this was icterus hemapheic, as described by Gruber. The spleen during the attack was much enlarged, but had entirely returned to normal dimensions. The purely congestive origin of this condition is difficult to explain.

RENON stated that in the Peter Pavilion of the Necker Hospital from July 15 to October 1, 1900, he had seen nine enteric-fever cases with four deaths among nurslings and mothers. In 1899 the mortality in the same department of the institution reached 57 per cent. These large fatalities were not to be attributed to the severity of the disease, because most of the cases had run a mild course; nor to the lactation of the patients, because of three actively nursing women but one died; nor to the peculiarity of the epidemic because the previous year, 1899, had also shown an excessive death-rate in this pavilion, while in the other departments of the hospital it was about 10 per cent. He concluded that the hygiene surroundings are responsible for the condition and that nurslings usually have a high mortality in typhoid fever. It seems evident that not only are the young children vulnerable to this disease, but that notwithstanding all possible precautions the other intestinal disorders of infancy may act as secondary infection, complicate the process and raise the death-rate.

BEZANCON said that most of the bacteria which occur on the pharynx and tonsils during an attack of acute non-diphtheritic angina may be found in the mouth and pharynx in health. Their rôle in the pathogenesis of non-diphtheritic inflammations is very difficult to appreciate by modern bacteriological methods. The frequency with which the pneumococcus is found led him to feel that very likely it could be isolated as a potent factor. In company with Griffon he tried the agglutination test upon them carried out by cultivating the germs in the blood-serum of the patient. The results were conclusive, namely, various degrees of bunching from feeble to intense, although the reaction was ephemeral. Such conclusions were in agreement with the clinical picture and the other bacteriological features of the pneumococcus. Furthermore they tend to show the rôle of this germ in affections previously ascribed entirely to the streptococcus and to substantiate the recent utterances of Widal and himself that these affections should be reclassified and some charged to other organisms. No tests as to the streptococcus could be carried out, as no method of making it agglutinate is yet known.

VARIOT, at the session of October 26th, rehearsed his results due to the systematic daily examination of 525 children afflicted with scarlatina as to various degrees of sore throats. In 150 patients he found the pharyngotonsillitis develop anywhere from the first day to the conva-

lescence without exudate. In the 375 patients remaining the exudate was at times circumscribed and at times progressing or general. In 62 patients out of 102 in whom the false membrane as an entity existed it was impossible to determine clinically whether the cases were true or false diphtheria and only bacteriological examination gave 30 true and 32 pseudodiphtheritic cases. Bourges and Würtz have stated that any membrane appearing at the end or during the convalescence would be pure diphtheria; but these observations have demonstrated to him that the other often occurs in the same manner, namely, pseudodiphtheria. The author always resorts to free serumtherapy as soon as any membrane appears, because that is the moment when the character of the angina may change and a diphtheria be checked. He also examined 423 children relative to any connection between the febrile cycle, the development of the eruption and the appearance of a pharyngotonsillar exudate. In 295 patients all three developed together and were closely related in the rest of the course, in the other 128 children any two appeared to go hand-in-hand overshadowing the third and quite independent of it. But a high fever always accompanied a frank pharyngitis, while a severe cutaneous lesion might or might not show great elevation of temperature. In no case did he find angina preceded by crops of vesicles as Lasègue has claimed.

HIRTZ lately observed a case of pneumococcus otitis media bilateralis with free discharge of pus, but very little or no pain, develop in a woman caring for her husband who was suffering from a severe attack of pneumonia. The diagnosis was established by a bacteriological examination of the pus. The source of infection may have been directly from the sputum which the wife had been in the habit of caring for, probably without thorough washing of the hands. It would be well to direct every one so nursing pneumonia patients to disinfect the hands, mouth and throat most carefully.

BOIX pointed out the fact that very early in pulmonary tuberculosis there occurs an atrophy of the neck-muscles which constitutes an early contributive diagnostic sign. As in the examination for the tubercle bacillus its absence does not prove absence of the disease, but its presence is almost proof of it. Careful comparison of the two sides of the neck is necessary and the areas affected are *seriatim* supraclavicular, subclavicular and supraspinous regions. The pathogenesis of this amyotrophy is not clear, but may be compared to those which occur about joints, namely, alterations in the nerve filaments of the pleura carried to the spinal cord, perhaps by pure reflex action, by retrograde degeneration or by reaction at a distance.

LEREBOULLET, at the November 2d meeting, discussed icterus without choluria. His observations were made jointly with Gilbert. The special type investigated was the *simple*, that is, not accompanied by evident affection of either the liver or bile-passages, very commonly seen especially as an hereditary or family manifestation after a generation afflicted with cirrhosis, chronic choleangitis, cholelithiasis or other hepatic or biliary disease. These hereditary tendencies are marked. The typical symptoms are slow indeterminate invasion, jaundice of the skin, often general sometimes partial, no discoloration of the mucosæ, fatigue, malaise, biliary pigments in the blood-serum but not in the urine, and no appreciable signs in the liver itself. Often one may differentiate irregular secondary symptoms like pruritus, urticaria, xanthelasma, etc. The xanthodermia of Besnier is probably this condition. Again, dyspepsia may characterize the disease or neurasthenia, hysteria, hemorrhagia, especially epistaxis and menorrhagia, both leading to anemia simulating chlorosis (*false chlorosis of icteric origin*). The cause of this disease, which corresponds to the "bilious temperament" of older physicians, probably lies in a more or less chronic infection of the bile-passages, accompanied by a cholemia sufficient to pigment the skin, but not the urine. It is ordinarily of absolutely good prognosis, but possibly in those who are specifically so disposed may lead to lithiasis, cirrhosis and other serious disorders of the liver and its ducts. Strict diet with no milk is the sole treatment.

WIDAL, SICARD and RAVAUT, at the Société de Biologie, October 20th, reported further peculiarities of the cephalorachidian fluid in health and various diseases, especially tuberculous meningitis. The cryoscopic point of the fluid in all acute forms of meningitis, no matter how various, oscillated between the extremes 0.56° C. and 0.75° C., the majority of a total of fifteen patients being between 0.60° C. and 0.65° C. The fluid seems to have a hypertonic tendency toward ordinary serum which shows a freezing-point of 0.56° C. In patients with manifest tuberculous meningitis in eight out of ten examined, the point fell to between 0.48° C. and 0.55° C. This fact may become of great diagnostic value.

RAYMOND and HULOT said that the injection of raw tuberculin gives only an approximate idea of what occurs in the disease. They enclosed active tubercle bacilli in collodion sacs and laid these in the abdominal cavity of animals. By degrees the toxic products of the germs dialyzed through the sac-wall and set up remote effects. Thus was simulated the condition so often present in the human patient when a tuberculous focus poisons the system without circulating the germs. The kidneys were seen to be in the most marked degeneration, although liver, spleen, pancreas and all the other viscera were affected.

DOMINICI killed three guinea pigs eighteen weeks after inoculation with tuberculosis and examined the spleens histologically. A general degeneration was found in each which he calls myeloid from its close resemblance to bone-marrow.

GILBERT and GASTAIGNE on November 3d said that they took the cephalorachidian fluid from eighteen patients with icterus and marked cerebronervous symptoms; in fifteen it was normal; in three it showed yellow color and biliary pigments and salts under the Ginelin and Pettenkofer tests. These patients had the most nervous symptoms. It seems possible, therefore, to deny that these symptoms are entirely due to the changes in the fluid, because they are not always mutually concomitant. Why the bile-substances should affect it in some and not in other cases is difficult to explain, unless we assume that in some conditions the membranes otherwise impermeable become permeable. As to the cause of the nervous symptoms, especially the somnolence, in jaundice we have to accept as formerly the presence of bile-products in the blood.

WIDAL, SICARD and MONOD reported that they have found in the normal patient the meninges impermeable to iodide of potassium, whereas in tuberculous disease of these tissues the salt can be recovered from the cerebrospinal fluid. Hence they affirm that this is a third contributive diagnostic point to distinguish this form from others. The previous two differential facts are a change in the freezing-point of the fluid and a specific leucocytosis, namely, lymphocytosis in tuberculosis and polynuclear neutrophile leucocytosis in cerebrospinal inflammation of the membranes.

HALLION and TUFFIER have studied in the dog the effect on circulation of cocaine injected by lumbar puncture. Subcutaneous injection always causes universal vasoconstriction with elevation of pressure. In the spinal canal just the reverse is caused, apparently by paralysis of the plexuses of the abdomen, itself due to the intrameningeal paralysis due to the drug. This nerve-depression can be counteracted by irritation of splanchnic nerves, especially by pressure on the abdomen.

SOCIETY PROCEEDINGS.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held November 12, 1900.

J. Blake White, M.D., in the Chair.

Acute Traumatic Malignancy.—This paper was read by Dr. W. B. Coley. In a paper read before the N. Y. Surgical Society in 1897 he said he had expressed his conviction that a large proportion of cases both of sarcoma and carcinoma were of traumatic origin. In that paper it was said that 27 per cent. of the cases observed by him were directly consequent upon injuries. Further experience had confirmed the view then taken. At his request Dr. C. J. Kane had compiled the statistics of the cases of cancer treated at the German Memorial Hospital during the last three years. From these it appeared that in 63 out of 100 cases the disease followed local injury and in 27 irritation of parts affected, and that in only 10 was there not any history of trauma or irritation.

Dr. Coley then cited a number of cases from his own experience. Among them were the following: Male, aged forty-five years; blacksmith. A kick by a horse, causing a simple fracture of the lower end of the femur, was followed in a short time by sarcoma at the seat of injury. Amputation at the hip-joint was followed by an uneventful recovery.—Male, aged twenty-eight years. Early in January, 1900, he received an injury of the right testicle. There followed a rapid swelling of the part, and the patient was twice tapped for supposed hydrocele. In February he was seen by Dr. Coley, who made the diagnosis of hematocele, with possible sarcoma, and operated. Microscopic examination showed round-celled sarcoma. Afterward the patient entered Dr. B. Farquhar Curtis' service at Bellevue Hospital with an abdominal tumor as large as a man's head, and he died on April 18th. This case was remarkable for its rapidity, as only a little more than three months elapsed between the reception of the injury and the fatal result.—Female, aged forty years. Sarcoma of the breast following a blow. Three operations were performed for successive recurrences.—Male, aged five and a half years. An injury of the groin was followed by a spindle-celled sarcoma, which grew with very great rapidity.—Male, aged eighteen years. A brick, falling three stories, struck on the right deltoid muscle. Round-celled sarcoma of the humerus developed and amputation at the shoulder-joint was performed by Dr. George R. Fowler. Very curiously there was a recurrence of the disease in the other humerus.

Out of 100 patients seen by Dr. Coley since the publication of his first paper, in 40 there was a distinct history of trauma and in 8 of local irritation. In 13 the disease developed within one month, and in 8 of the 13 within one week after the injury. In a total of 270 patients the disease was preceded by trauma in 80, or a little more than 31 per cent. In 11.5 per cent. of the cases the disease occurred within one week after the injury. The subject of acute traumatic malignancy is certainly receiving more and more attention from the profession, and it would seem that the old opinion of the laity that cancer follows injuries really has a substantial basis in fact. Beginning with W. Harrison Cripps, who in 1882 found a traumatic origin in only 7 per cent. of cases, Dr. Coley quoted the statistics of various writers, and said that there was undoubtedly sufficient evidence to show a definite history of trauma in a large proportion of cases. Just how the injury acts is as yet an entirely unsettled matter. Most of the German authorities incline to the view of a constitutional diathesis, predisposing to malignancy. Dr. Coley said that his own opinion had not changed. He still felt con-

vinced that such tumors are infectious, or, in other words, of microparasitic origin. Having referred to their analogies to tuberculosis and osteomyelitis, he said it was reasonable to suppose that in many individuals the cancerous micro-organisms exist in a latent state, and that a local injury or irritation has the effect of arousing them into activity. The main conclusions arrived at were as follows: (1) Trauma is a very important factor in the causation of malignant tumors, and (2) this relation appears to afford considerable support to conclusions as to the infectious nature of their growths.

Dr. B. Farquhar Curtis said it was wise to guard against trusting too implicitly to the statements of patients with reference to antecedent injuries. Thus, in cases of cancer of the breast it was generally very easy to get some sort of a history of trauma, but when definite facts as to the injury were wanted such were often very difficult to obtain. It was certainly true that these injuries were more likely to be followed by sarcoma than by carcinoma. Having referred to a case of osteosarcoma in the clavicle, which was followed by a secondary sarcoma of the rib, he said that all these thickenings occurring after contusions of bones are by no means sarcoma. In addition to the hypotheses mentioned by Dr. Coley he suggested another possible method, namely, the effect of the injury in causing a proliferation of cells, a return in a measure to embryonic conditions. In conclusion he referred to two practical points, *viz.*: (1) The effect of this theory of traumatic causation of malignant disease upon accident insurance and on suits for damages. (2) A great many women have tumors of the breast following some accidental injury by a member of their family, but it is advisable not to express too positive an opinion, as this might add to the trouble and distress already existing.

Dr. Fred. Lange was inclined to accept Dr. Coley's view of the parasitic nature of the disease, and thought that more extended experiments should be carried on for the purpose of establishing or disproving the hypothesis. At the present time there was not enough uniformity among pathologists to permit of positive statements.

Dr. Louis Heitzmann took issue on this point, and said that all the micro-organisms which had from time to time been adduced as the etiological factors in the production of malignant growths had been disproved. To him the return of the cells to an embryonic condition, as referred to by Dr. Curtis, offered a much more satisfactory explanation.

Dr. Coley said that this was a great problem which would require the combined efforts of many observers to solve. The claims put forth by San Felice, Roswell Park, Lephold and others had not been disproved, while, according to Edwin Klebs, the embryonic theory of Cohnheim was no longer tenable.

BOOK REVIEWS.

A Practical Treatise on Medical Diagnosis. For Students and Practitioners. By JOHN H. MUSSER, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia and the Presbyterian Hospitals; Consulting Physician to the Woman's Hospital of Philadelphia and to the West Philadelphia Hospital for Women. Fourth Edition. Lea Brothers & Co., Philadelphia and New York.

VIEWED from the standpoint of posterity there is no doubt that the present time will be regarded as a notable epoch in the history of medicine and that the last few years will be deemed to have been as productive of real advance as any period of the immediate or more remote past. For, while we cannot, perhaps, point to any single invention or discovery as epoch-making, for example, as the achievements of Jenner in practice, or Laennec in diagnosis, it cannot be disputed that our general attitude toward the recognition and treatment of disease has lately been so markedly modified and the practice of medicine so completely lifted from the domain of empiricism to something at least approaching an exact science that we may justly claim for our day the same deference and gratitude that we accord to the age that gave us vaccination and the stethoscope. But the ability to profit by the work of the investigators who are daily enriching our knowledge in their special departments is to be gained only by a scientific education of a breadth undreamt of by our fathers and the clinician of to-day must not only be a practitioner of medicine in the older sense, but also be an expert microscopist, bacteriologist, pathologist and chemist as well

This increased complexity of the art is being recognized and well met by our medical colleges whose graduates are for the most part turned out equipped to pursue their investigations in any field of scientific inquiry that seems likely to be helpful in solving the problems of daily practice, but there is still the huge class of general practitioners who are too busy to take up post-graduate courses or spend their time culling from the literature the information likely to be of practical value. It is especially for these that this book should be of inestimable value and that it has been appreciated is shown by the appearance of this the fourth edition only six years after the publication of the first. In the author's words, "Instruments and methods of precision, physical, chemical, microscopical and biological, are now so readily at the command of every practitioner that he is legally, as well as morally, bound to exhibit in his diagnosis and treatment a degree of certainty far greater than could formerly have been exacted," and it is precisely the various methods and appliances by which such accuracy is to be attained that are detailed

with a clearness and completeness surely never surpassed in any manual of the sort. The author has combined in a single volume a description of the laboratory methods and technic required, with beautifully clear and logical discussions of the bedside work and physical signs. After an introductory chapter the first part of the book on general diagnosis is divided into the data obtained by inquiry; the data obtained by observation; a full discussion of the examination of that tissue which now bears the *crux* of nearly every difficult diagnosis, *viz.*, the blood; and a section on the morbid processes and their symptomatology. Part II. on special diagnosis considers the nose and larynx; diseases of the lungs and pleuræ; diseases of the heart, the blood-vessels and the mediastinum; diseases of the mouth, fauces, pharynx and esophagus; diseases of the stomach, intestines and peritoneum; diseases of the liver, spleen and pancreas; diseases of the kidneys; and, finally, an admirable section on the diseases of the nervous system which is calculated to do away with much of the feeling of hopeless confusion with which they are usually regarded by the general practitioner. This edition has been completely revised and in part rewritten with the addition of many new illustrations and is in all important particulars so perfect that it is surprising to note how many misprints have been allowed to stand all through the book, such as "otitis" for "ostitis" on page 85, "palpation" for "palpitation" on page 88, "inquiry" for "injury" on page 49, and the omission of the word "not" from the fifth line of page 47, whereby the author's very obvious meaning is exactly reversed; while on page 385 in the very complete list of diseases accompanied by eosinophilia we find no mention of bronchial asthma or the helminthiases. The illustrations throughout are of unequaled beauty and clearness, the elaborate set of plates illustrating the physical signs in disease of the chest and abdomen being of especial interest and value. Indeed, considered from every standpoint, that of subject-matter, style, and mechanical excellence, the work deserves only praise of the highest order, and there is hardly a student or practitioner in the country who would not find it an invaluable reference-book for daily use.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D. Volume III. September, 1900. Philadelphia and New York: Lea Brothers & Co, 1900.

THE present volume of "Progressive Medicine" contains the review of the recent literature of Diseases of the Thorax and Its Viscera, by William Ewart, Physician to and Joint Lecturer on Medicine at St. George's Hospital, London; of Diseases of the Skin, by Henry W. Stelwagon, M.D., Clinical Professor of Skin Diseases in Jefferson Medical College, Philadelphia; of Diseases of the Nervous System, by William G. Spiller, M.D., Professor of Neurology in the Philadelphia Polyclinic, and of Obstetrics by Richard C. Norris, M.D., Instructor in Obstetrics in the University of Pennsylvania. The names of the reviewers constitute the best possible guarantee that nothing of practical importance in the recent literature of these subjects has escaped notice.

The article on diseases of the chest comes very opportunely for the season of the year when respiratory affections are most frequent. It is the custom to think that there is practically nothing new in the old subject of thoracic diseases. A glance at the present volume, however, shows that suggestive advances, practical and helpful, are constantly being made. We note in passing typhoid pneumonia, for instance, which has lately been raised to the dignity of an independent symptom-complex. Abram's aids to the diagnosis of pleural friction are interesting. Three maneuvers are practised to bring out the pleuritic murmur: (1) The extended arm is raised to the side of the head; (2) the patient lies on the affected side for one or two minutes and then rises quickly while holding the breath. Friction if present will be intensified owing to closer pleural contact in a collapsed thorax; (3) the intercostal pressure maneuver, the buttoned rod of the phonendoscope fitted into an ordinary chest-piece, is pressed firmly into the intercostal space. Dorsal percussion and percussion of the spine are subjects in which a certain amount of progress has been made quite recently and the advances are of great interest to the practitioner who wishes to be exact in diagnosis. The use of the good old-fashioned poultice has threatened to go out entirely. Certain hints as to its indications and the method of preparation are given in the present volume which show that it still deserves a place in the therapeutic armamentarium.

In the chapter on diseases of the nervous system Dr. Spiller says: "Probably no organic affection of the nervous system is more common or has been better studied than hemiplegia, and yet the subject still offers much opportunity for investigation. Even those who have seen many cases of unilateral paralysis of rapid development find it difficult at times to determine the cause of the paralysis." Dr. Spiller's words are well calculated to encourage more careful study of hemiplegic conditions and are especially suggestive for the general practitioner who sees so many cases of this affection. In the question of the surgical treatment of brain tumor Dr. Spiller calls attention to a case in which operation showed the presence of an infiltrating glioma which could not be removed. The opening in the skull that remained after the operation gave the tumor a chance to expand in its growth until it formed nearly as large an extracranial mass as the man's head. Undoubtedly the relief of intracranial pressure thus afforded saved the patient great pain and prolonged his life.

Dr. Norris in his review of obstetrics begins with an abstract from an article on parturition

among the Eskimos. These women are delivered when alone and at a distance from any habitation. It is considered unclean for them to remain any length of time where the child is born. The mother drags herself at once some distance, often over snow and ice. Despite the rigorous conditions the rate of mortality for both mother and babe compares favorably with the death-rate in more civilized communities. The story surely emphasizes the importance of as little obstetrical interference as possible.

A Dictionary of Medical Science. By ROBLEY DUNGLISON, M.D., LL.D. Twenty-second Edition. With Appendix, thoroughly Revised and Greatly Enlarged. By RICHARD J. DUNGLISON, A.M., M.D. Lea Brothers & Co., Philadelphia and New York.

The Students Medical Dictionary. By GEORGE M. GOULD, A.M., M.D. Thirteenth Edition. P. Blakiston, Son & Co,, Philadelphia.

The American Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D. W. B. Saunders & Company, Philadelphia and London.

A DELUGE in lexicography threatens to overwhelm the medical world. During the past year four or five medical dictionaries have appeared from different publishers.

The veteran Dunglison still leads the van with its twenty-second edition. Gould's dictionary is now in its thirteenth edition, while Dorland's is a new claimant for honor.

The first is the same solid standard work, but with a really valuable appendix that brings it up to the vocabulary of the century, and the last is a work on a more modern plan, well bound and well illustrated.

The only drawback to Dunglison's dictionary is the hybrid nature that arises from keeping old and disused terms in the body of the work, and the newer terms in the appendix; and yet the classification on such a plan makes an interesting comment on the advance of medicine since the main portion of the work was published. As an illustration of the rapidity with which new words are coined to express accurately the advances in science, we note that this twenty-second edition contains fifteen thousand words over and above those in the twenty-first edition published seven years ago. When we remember that five thousand words suffice the average man for polite conversation, and that Shakespeare's vocabulary, the largest in the English language, numbered but fifteen thousand, it is rather appalling to learn that the doctor's word centers must respond to this extra strain.

In the present edition, the subject of bacteriology naturally claims a large proportion of the increase; and so accurately has its terminology been handled that it may be regarded as, for the time being, complete. The recent discoveries in new drugs and chemical combinations have also added a vast number of words in the subject of therapeutics and materia medica. The difficulty of keeping pace with this subject may be appreciated when one remembers that during the last three years twelve hundred new medicines, or compounds have been manufactured and named.

Those who are familiar with Dr. Gould's dictionary will find few changes in the new edition except in the eponymic terms, and those that the last few years have brought into universal use.

The American Illustrated Medical Dictionary by Dorland has the very valuable recommendation of a convenient size. It can be pulled from its shelf and replaced by a wrist movement, involving no particular use of brawn; therefore a man will consult it perhaps twice as often as a dictionary that monopolizes a whole table. Moreover, it has flexible covers, and clear print, with an excellent page arrangement. It is concise in its definitions, but not abridged. It contains all the newest established words of the present, without being cumbered by relics. Its illustrations are excellent, and its tables of tests, staining methods, methods of treatment, etc., will be of value to the busy man, who can in a second lay his hand on any formula he wants.

Text-Book of Practical Medicine. By DR. W. GILMAN THOMPSON. 8vo. Illustrated. Philadelphia and New York: Lea Brothers & Co.

THE title of this new work on medicine challenges attention. It is "Practical Medicine"—not the "Practice of Medicine." It is as if this eminent exponent of rational therapeutics and of scientific dietetics had thus publicly recalled the members of our profession to the first duty of the physician, the cure of the sick.

The work is divided into nine parts. In Part I. three hundred and fifty-six pages are given to a full and up-to-date discussion of infectious diseases. In Part IX. those diseases which cannot be classified either as infectious diseases or as distinctively belonging to any single physiological system, and the effects of poison and of parasites require one hundred and twenty-five pages for their consideration. The intervening parts are given to the systemic diseases. This classification is as good as any and is perhaps the best now possible. To illustrate in how much this classification differs practically from that of quite recent works, it is but necessary to observe that rheumatism is included in the infectious diseases, rheumatoid arthritis is classed with nervous diseases, and gout is treated in Part IX., under the heading of miscellaneous diseases.

In these thousand printed pages the author has presented in vigorous and easily-flowing English the rich harvest of his ripe experience as physician and teacher. There is everywhere ample evidence of accurate observation, profound scholarship and rare good judgment. There is no slighting of accurate and luminous description of the various manifestations of diseases. There is not missed any of the very latest discoveries in the etiology of diseases. There is no minimizing

of the importance of an early and sure diagnosis, and no lack of a complete consideration of the difficulties in diagnosis and of the means by which an accurate diagnosis may be made. There is no "cut and dried" therapy—no list of formulæ properly labeled with the names of the diseases for which they are supposed to be invaluable, but in a direct and most satisfying manner, yet without dogmatism, he has given in sufficient detail the exact method of treatment that has commended itself to his judgment and his experience. We do not need to say of him, as was recently said of an eminent author by a teacher of medicine to his class, "Really, gentlemen, Dr. ——— is a much better physician at the bedside than his book would lead you to suppose."

It is impossible for any work on so great a subject to appear perfect to every reader. Some who will be pleased to see due credit given to the many recent discoverers in the various fields presented by the etiology, diagnosis and therapeutics of infectious diseases will be sorry to miss notice of the work of Williams in developing the use of the fluoroscope in the diagnosis of "incipient" tuberculosis of the lungs; a method which in the hands of experts is so refined that Trudeau considers it even more sure in early diagnosis than is the use of tuberculin. One might wish that the experimental work of that Russian investigator, who has given the most reasonable explanation of the effect of laparotomy in the cure of tubercular peritonitis had been referred to. In the discussion of aneurism, which is exceptionally well done, there is no reference to aneurism of the pulmonary arteries, a condition which, though rare, has been seen by the writer and confirmed by autopsy very recently. Some close student of dietetics will wonder why in the treatment of gout it is recommended "to aid the elimination of waste," while in the treatment of acute gout all the meat broths are prescribed as suitable diet, which, if Masterson and Samby are not wrong, have "a chemical composition closely resembling that of urine" and must, therefore, of a certainty, add to the embarrassment of the eliminating organs. Some will doubtless criticise the early permission of solid food in typhoid fever, and will agree with the writer that it is safer to forbid solid food until the temperature has been normal for ten days. But the criticisms of omission or commission in this work which can be made by the honest reader are very few indeed.

The work of the publishers is commendable. The paper is good if rather thick. The type is large and new and clean-cut, and the judicious use of heavier letters in headings aids materially in rapid reference and in the analysis of each subject. The few illustrations are well done, and are used to show graphically what words cannot so easily convey.

It is confidently predicted that this volume will meet with a hearty reception and that it will still farther enhance the already high opinion the profession has of the author.

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By ROBERT W. TAYLOR, A.M., M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. Lea Brothers & Co., Philadelphia and New York.

IN this, which is in reality a thoroughly revised or new edition of Dr. Taylor's well-known book, the author has included the affections of the genito-urinary organs, thus giving to the profession a standard, authoritative, and thoroughly up-to-date work on genito-urinary diseases, venereal diseases and syphilis; the original volume having been completely rewritten and revised throughout.

The author has accomplished the difficult task of presenting these subjects concisely and at the same time of omitting nothing relating to these diseases, which are all of them presented in such a clear, practical and comprehensive manner as to appeal equally to the practitioner, the specialist and student, all of whom will gain much new and useful information from a careful reading of this valuable work. The general arrangement and classification of subjects is a new and happy departure, the writer possessing the faculty of making important conditions and diseases prominent, and of relegating unimportant and infrequently encountered ones to the background.

The various methods of diagnosis and treatment for these affections are given in great detail, and, while distinctly conservative, are thoroughly modern and up to date in every respect, the author basing his observations upon pathological facts, together with a large and scientifically observed clinical experience; so that after a careful reading of these pages the physician will find himself thoroughly equipped to make proper examinations and accurate diagnoses, and also to treat these diseased conditions in a most approved and scientific manner, the author having succeeded in giving this information in an interesting, terse and convincing manner. As a safe and standard guide for workers and students in this department of medicine, Dr. Taylor's latest work, like his older ones, is by far the best as yet published in the English language.

The publishers deserve great praise for the general superiority of the book, as to type, paper and workmanship, and also the excellence of the innumerable illustrations.

A Text-Book of Medical Treatment of Diseases and Symptoms. By NESTOR TIRARD, M.D., F.R.C.P., Professor of Principles and Practice of Medicine, King's College, London. Lea Brothers & Co., Philadelphia and New York.

IN this period of transition and uncertainty regarding the pathology of disease and the consequent skepticism in reference to the efficiency of drugs, it would seem at first glance to require no little courage to father a treatise on medical

treatment. With a proper appreciation, however, of the limited indication for the use of drugs and a realization of the broad application of hygiene and dietetics in the management of patients the field of therapeusis opens and the uncertainties give place to positive conviction and statement. In the book before us it is evident that the author has clearly perceived this aspect of the situation and reckoned with it in the elaboration of his subject. A certain limited number of drugs are specific in their effect, a large number are curative and a still greater number meet and control symptoms. These have discriminating consideration at the hands of our author in the management of disease, or, perhaps we should say, the management of patients, for it is from this standpoint that the book is written.

All the pathologic conditions that flesh is heir to except those strictly surgical are discussed. The author shows a nice appreciation of the limitations of medicine in indicating at what stage certain diseases become surgical and demand operative interference. The discussion of this point in connection with appendicitis, gall-stones, and nephritic colic, indicates a broad and unprejudiced mind.

We could have wished that the author had set forth with greater emphasis his conviction regarding the specific qualities of diphtheria antitoxin. In diphtheritic invasion antitoxin is the "paramount issue," the position of which has been settled as definitely as the gold standard in finance. In tetanus, too, antitoxin is the sheet anchor and the necessity of its early application demands positive, mandatory advice. The chapters on pneumonia and typhoid fever are full of judicious suggestion, safe guides in these critical and trying diseases. The pathology and the complications are discussed sufficiently to indicate the *rationale* of the treatment and so appeal to the intelligence and reasoning faculties of the student rather than to his sheer force of memory.

The style of the author is clear and attractive, and the work of the publishers unassailable. The book will prove of great value to the senior student, the young practitioner, and the general practitioner, and full of suggestion to the learned consultant—an exhaustive yet concise, up-to-date exposition of modern therapeusis.

Obstetrics. A Manual for Students and Practitioners. By David James Evans. Lea Brothers & Co., Philadelphia and New York.

This is one of a series of pocket text-books of that kind which students use so much. The book is divided into ten parts, treating, respectively, of menstruation, pregnancy (normal), obstetric anatomy, mechanism and course of normal labor, management of normal labor, the puerperal state, pathology of pregnancy, pathology of labor, pathology of the puerperal period, and obstetric operations. More space has been given to normal labor and the more frequent complications than to the rarer conditions and more difficult operations. The physiology and pathology of the newborn have been omitted.

The author has presented the subject in a very clear and concise manner and the book cannot fail to be of help to the student. The book is well illustrated, some of the engravings being new and in colors, and printed upon very good paper.

Suggestions to Medical Writers. By George M. Gould, A.M., M.D. Philadelphia: Philadelphia Medical Publishing Company.

It was a good deed of Dr. Gould to write "Suggestions to Medical Writers." The work must have been brought forth in throes, for he can undoubtedly extract much suffering from what gives the ordinary mortal no twinge. Other editors have suffered with him, perhaps not so keenly, because they did not know enough to be pained at so many points, yet sufficiently to pray that the sales of his book may be large, and that the readers may be lured from cover to cover by his little jokes and sprightly terms. There has been need of a medical rhetoric, speller, and complete essay writer; and it is a praiseworthy act to tell contributors so plainly and simply "not to put pen to paper, unless they have something to say," and to "stop when done."

Dr. Gould has the tools of the literary man in his knowledge of the way words and sentences are made, and in his feeling for the right word to express the idea. These tires literary men usually forge for themselves in the workshop of classic literature; but medical men are usually too busy to evolve or borrow a dictum; so they either blurt forth their facts in bold English, or map their ideas in queerly compounded hybrid words borrowed from several languages. We fear that much of Dr. Gould's logical and forceful remarks on medical writing will not be appreciated by contributors who feel that the mechanism of putting an article into decent type devolves upon the editor himself and not upon the creator of the ideas. But if every right-minded physician who started out to write an article would consult this neat, concise little hand-book, he would find out a well-recognized way to abbreviate his citations to describe his cases, to put in charts and illustrations, to write his titles, and insert his foot-notes. He would also get valuable hints on paragraphing, punctuation, and medical spelling, and would incidentally derive much enjoyment from Dr. Gould's strenuous efforts to reform those who will persist in adding *al* to those words ending in *ic*, as *chronic, theoretic*, to make them adjective in form. He says: "In some countries the sheep's tails are so long that they hitch a tiny wagon to each animal, so that it hauls its own caudal extremity. Now, the difference between the sheep and our medical Bo-Peep alpacas is that the words give no valuable wool, and we trail them on the ground behind us, as the ladies do their dress-trains."